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The OIL WEEKLY and The COMPOSITE CATALOG for the drilling-producing-pipeline industry

PETROLEUM REFINER and The REFINERY CATALOG for the refining-natural gasoline industry

☆

LOOKING AHEAD
... with the Editor

TRUCKS, especially the heavy-duty units upon whom the industry relies for transporting equipment and products, are seeing harder service than ever before, with less time out for repair and less experienced mechanics to recondition them when they must be withdrawn from service.

One of the relatively minor parts of the truck engine, as size goes, is the valves, which wear much more rapidly as load-ratings and hours of service mount. Many motors are withdrawn for overhaul or valve renewal before other parts need replacement, causing serious loss of truck time; and, in many cases, drawing on a diminishing stockpile of replacement valves.

A method of reconditioning valves which have deteriorated over the seating area, but which are still usable as to stem clearance, involves hard-facing of the seat after a special form of clearance has been turned on the valve. Use of a motor-rotated welding fixture aids in obtaining the desired uniformity of the relatively thin ribbon of hard-facing metal which is deposited.

Valves reconditioned by hard-facing are found to give service equalling that of the original unit, and thus enable a power plant to operate until a general overhaul is indicated.

Description of the hard-facing method with hints for successful extension of valve life will appear in an early number.

THE OIL WEEKLY

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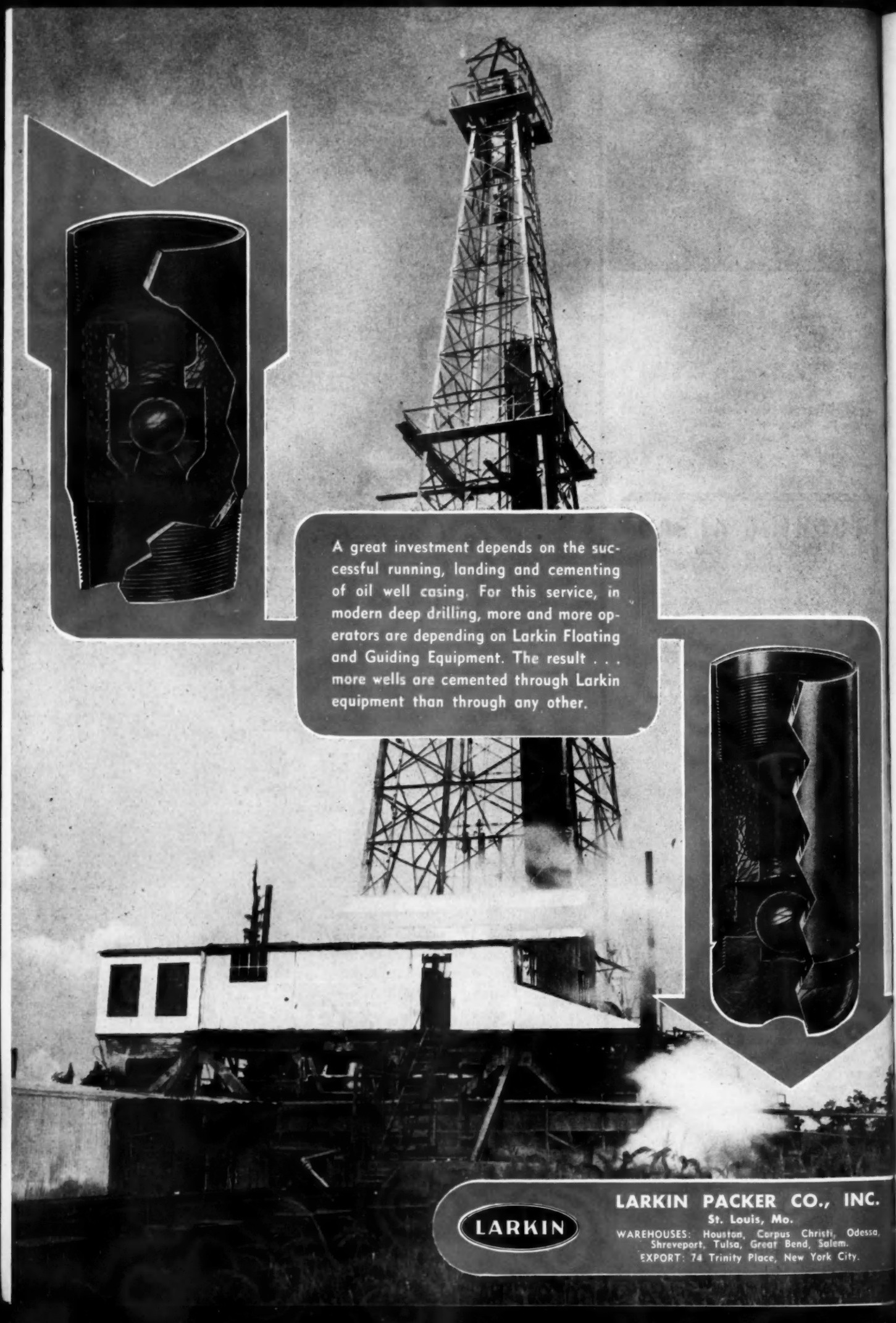
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The Changing Panorama

Government Corporations Losing Proposition

THE Joint Committee on Reduction of Nonessential Federal Expenditures, of which Senator Harry F. Byrd is chairman, has reported to Congress on government corporations.

At the time the statistics included in the report, were compiled, June 30, 1943, there were 44 government-owned corporations with liabilities of 16½ billion dollars. These corporations controlled borrowing power of 33 billion dollars, plus outstanding loans of 6½ billions. They are operating at a current loss of nearly 103 million dollars. Their activities extend all over the world and they employ 70,000 people.

According to the report, "government corporations seem to have been created with little thought as to their advantages or disadvantages; some have been set up without capital stock, and others have been established with the idea or even the expressed intention to use up all capital in carrying out their purpose."

Reminding A Nation Of Oil's Contribution

IT IS appropriate that attention of this nation be called specifically to the importance of oil in our economic development. The progress we have made in attaining a higher standard of living than many other people in the world, is partly due to our use of petroleum and its products. Likewise it is wholly fitting that we should be reminded of our dependence on oil for our preservation as is being revealed daily in our victories over the Axis nations.

On Sunday evening, August 27, a commemorative nation-wide program will be broadcast from the exact site of the Drake well, at Titusville, Pennsylvania, the birthplace of the American oil industry. This ceremony will climax the two-week observance of the 85th anniversary of the industry, inaugurated on August 12. On that date the Indian Chief Soubarissen who introduced petroleum to the "palefaces" 317 years ago, was honored at the Sausalito, California yards of the Marinship Corporation, by the launching of an oil tanker bearing his name.

Progressively mounting taxation destroys incentive, strangles industry at its source, sows the seeds of state socialism and can, in the end, destroy freedom, as we have known it in this country.

Let's not forget, there are no jobs without employers, no employers without risk capital, no risk capital without incentive.

—DONALD DALLAS, president Revere Copper and Brass Incorporated.

Want Benefits of Cartels, If Any

A CARTEL commission authorized to determine the merits of every international business arrangement as a practical method to eliminate evils of the cartel system, is suggested by the New York Trust Company. American business men must face this issue "squarely and realistically," according to the analysis.

To condemn a type of commercial organization which has been gaining favor for centuries in other countries, without full understanding is a short-sighted policy, it is argued. Reviewing current activities of the Department of Justice to break up cartel agreements as violations of America's anti-trust laws, the analysis says: "Cooperation with other nations will not be promoted, and may well be rendered impossible, if we continue our policy of spasmodically enforced competition while other nationals progress further along the path of industrial integration."

The study points out that a selective policy between the extremes of full cartelization and absolute competition would enable a commission to examine each cartel arrangement from the viewpoint of: a public policy; its effect on the volume of international trade; on the military security of the nation; on prices, production and employment; and on general justification of its right to exist.

"The United States," the report concludes, "is practically the only country where combinations between business enterprises are considered contrary to law. This makes it obligatory for this country to re-examine its position, even if America's present attitude may prove to be right. If one powerful country insists upon a program out of line with that adopted by other nations, a disturbing element may be injected at a time when leaders everywhere will wish to make an honest attempt to establish economic collaboration."

Questionnaire Nuisance Curbed

THE advisory committee on government questionnaires, of the United States Chamber of Commerce is to be congratulated on its excellent work dealing with government forms.

Through its counsel to the Federal Budget Bureau, the committee has been instrumental in bringing about the elimination of hundreds of questionnaires, the simplification of nearly 1000 others, and has furnished the Budget Bureau with advice which prevented the appearance of many other useless forms.

It is to be hoped that the committee under its new chairman, F. Stuart Fitzpatrick, will continue the good work.

West Edmond Pool A Tribute to Oil Men

WEST Edmond, prolific Hunton lime pool in central Oklahoma, is riveting the attention of oil men. The development of the field under wartime material and manpower restrictions illustrates how American oil men are meeting the greatest production challenge in history.

With its limits still undefined, West Edmond is an echo of Greater Seminole and Oklahoma City and is directly responsible for maintaining Oklahoma's high production. It is surpassed only by the Oklahoma City pool and will undoubtedly become the state's biggest single producing area.

With 88 heavy-duty rigs in operation, West Edmond now has the largest concentration of rotary rigs of any area in the United States. The rigs are drilling "inside" and wildcat locations over an area that extends into three counties, Oklahoma, Canadian and Logan, with a producing spread more than nine miles long and three miles wide.

Many of the rigs have been salvaged from junk piles. Six months ago all available rigs had been absorbed. Since then supply companies and contractors have searched junk piles for parts and have rebuilt serviceable rigs, modernized obsolete equipment and converted light rigs to heavy duty. All rigs in the field are booked with contracts for a year ahead.

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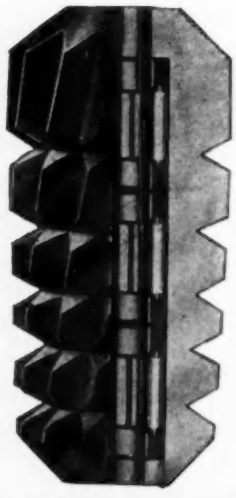

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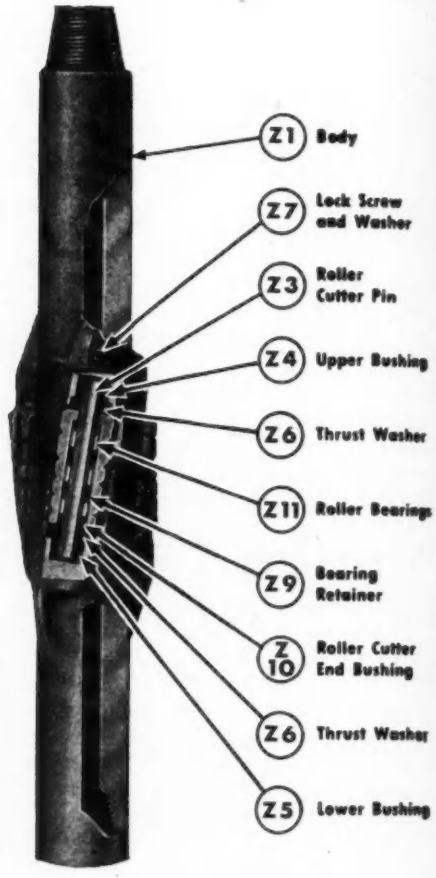

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in West Edmond with completions reported almost daily. In addition to the drilling wells there are more than 120 locations in various stages prior to actual drilling.

This pool has been developed despite shortages in material, housing, technical men, skilled workmen and professional men. It is not unusual to find men in supervisory posts doing heavy handling.

West Edmond is not only a great oil field; it is a proving ground for the oil industry under the most adverse set of conditions and circumstances which have ever combined to try the ingenuity of the American oil producer. And he has proved equal to the task.

Standard New Jersey Sets Production High

STANDARD Oil Company (New Jersey) has pushed its world-wide crude oil production and refining rates to the highest level in its history.

In the first quarter of 1944, this company's total production was more than 850,000 barrels per day, which was 18 percent above the company's previous peak yearly average of about 711,000 barrels daily in 1941, and compared with 27,000 barrels in 1918. Most of this increase came from subsidiaries operating in the United States, which in the first quarter of the current year were producing crude at a rate nearly 60 percent greater than in 1941. No doubt the company's daily crude production is even greater today, for substantial gains in United States producing rates have occurred since the first quarter.

For the first time in this Standard Oil Company's history, its world-wide refinery crude runs exceeded a million barrels a day. The actual figures for the first quarter of 1944 was 1,026,152 barrels daily, 13 percent above the previous peak yearly average of 910,410 barrels per day in 1941, and in contrast with 163,000 barrels a day in 1918. Again, most of this increase has been borne by the company's plants in the United States, which in the first quarter operated at 25 percent above their previous peak.

Sand as bearing lubricant! Not in the familiar grains which now add to maintenance problems but both liquid and solid materials in which silica forms a major component have been developed which serve as lubricant and insulant for many types of motors. The new "sand base" lubricants are being produced in 12 viscosity grades, for use in temperatures as low as 70 degrees F., and as high as 500 degrees F.

Oil Commission Needs Men With Experience

WITH beginnings of a petroleum agreement between the United States and England, arrived at by the two conferences already held, further success in developing and extending the agreement, depends on the membership of the International Petroleum Commission. Only through a membership constituted mainly of men with current and continuing experience in the oil business, can full results be hoped for.

Ralph T. Zook, president of the Independent Petroleum Association of America, who sat in on some of the conferences prior to signing of the agreement, urges that "a commission is needed which will have a thorough and practical understanding of the oil business." Misunderstanding is usually the origin of difference in opinion, Zook points out, and warns that certain expressions in the agreement may be interpreted in more than one sense. "For instance," he says, "there is no question but that only oil in international trade is covered by this memorandum, but it could have been stated more clearly that the International Commission will have no jurisdiction of any kind over domestic production."

Commenting further on the agreement, Zook stressed the fundamental necessity of thorough analysis and free discussion "in the open before such an agreement becomes effective." This examination of the agreement is made possible by the condition that it become effective upon notification by both governments of their readiness to bring it into force. The interim nature of the agreement also provides opportunity to test its workability before attempting to expand it to include other countries.

Making the Most From Our Rocks

SYNTHETIC oil, made from our abundant carbonaceous rocks, is not beyond the realms of possibility, according to Dean Edward Steidle, of Pennsylvania State College.

Two ways of utilizing the wealth of these rocks are pointed out by the dean in "Wealth Around the Corner," recently published in Mineral Industries. One is by the extraction of certain minerals or elements, comparable with our present practice of ore refining; the other is the utilization of the rock as a unit.

Extraction of aluminum from alunite, the proposed extraction of aluminum from clay and the reduction of magnesium from dolomite are well known. When these processes are made more economical, light metals cheaper and more abundant than any known metal will be at our disposal.

It may be possible through use of the recently invented syclotron to bombard the atoms of the cheap, abundant heavy elements, such as lead, and produce light rare elements such as beryllium. Elements of common rocks could be used as an unlimited source for beryllium.

The second method of utilization of rocks, by considering them as a unit, is more immediately applicable. We are all familiar with the uses of limestone, marbles, etc. However, the consideration of a rock as a complex chemical entity with a fairly definite composition, which can, by the application of high temperature technology and minor additions of other materials, be transformed into almost any desired product, has been largely ignored. The ordinary rocks of the lithosphere have inherent in themselves enough new products to weather a dozen depressions, and they merely await a determined technical investigation from the new approach of high temperature technology."

Notice of Drillers' Requirements Needed

GLENN A. CAMPBELL, chief of the materials section of PAW recently assured the drilling industry that every effort is being made and will continue to be made to produce enough drill pipe and tool joints to assure continuous operation of necessary rigs. The magnitude of the problem involved, however, was stressed by figures which he quoted when he said that the number of rotary rigs running now has increased from 713 on January 1, 1943, to 1684 on July 31, 1944. He urged operators to determine actual needs of drilling equipment as far in advance as possible so that PAW may pass such requirements on to proper claiming agencies.

Supersonic equipment has been developed which may be used to locate nondestructively intercrystalline fractures parallel to the surfaces of steel sheets. Such a test may be used in connection with or alternatively to the X-ray examination of steel for high-pressure vessels. By the use of water "packing" between instrument and plate surface, areas of the order of 5 mm. in diameter may be examined and the soundness of the material determined within the highest pressure working limits of the petroleum industry.

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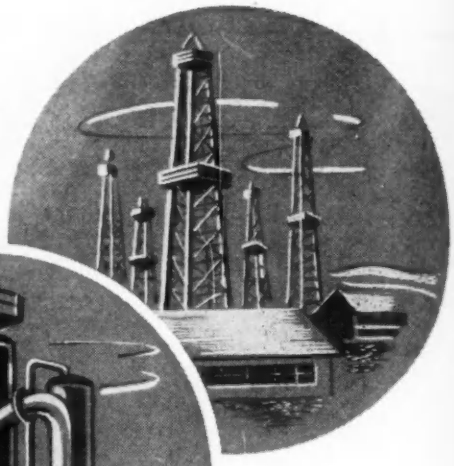

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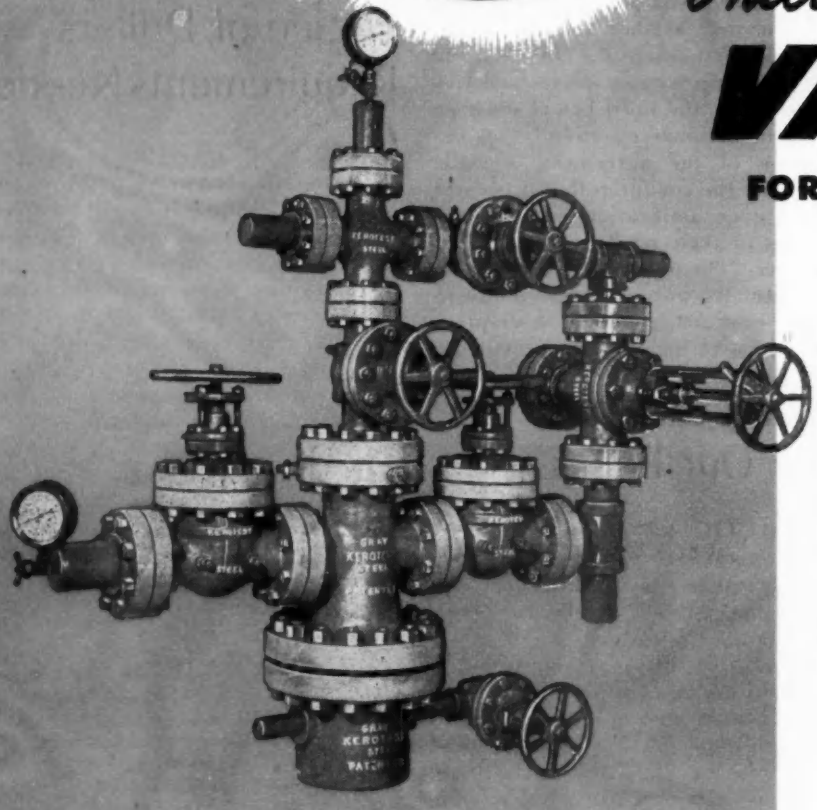

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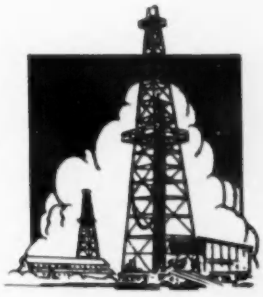


By BERTRAM F. LINZ, Washington Correspondent

DEVELOPMENTS in Washington last week were largely concerned with postwar problems—demobilization of the uniformed and industrial armies, reconversion of industry and disposal of surplus war properties.

Civilian Production—Anticipating a 40 percent drop in military requirements when the European war ends, the War Production Board issued an order paving the way for resumption of civilian production by plants having available the materials, manpower and machinery. But Chairman Donald Nelson warned this would not lead to any great expansion of civilian output in the immediate future.

Surplus Property—The Senate, which already has passed legislation providing unemployment benefits for war workers thrown out of their jobs as military contracts are terminated, was waiting for the House to send legislation dealing with the disposition of surplus property.

Texas and PAW—To Washington came a demand from Texas that PAW prepare to fold up and return control over oil to the state authorities. (See page 68.) PAW officials said it had always been in their minds to close up shop as soon as possible, but it was pointed out that the collapse of Germany will not eliminate the need for control over the flow of oil and its products, and the defeat of Japan, not of Germany, will be the signal for the government to get out of the oil business. However, if conditions permit, there is likely to be gradual relaxation of present restrictions.

What Is "Normalcy"?—With the increasing pressure from all sides for a quick "return to normalcy," some question is beginning to arise as to just what normalcy will be. To the older generation, normalcy is something that disappeared in 1914, after which the country went through a series of booms and depressions, to the younger generation, normalcy was the depression thirties. Washington officials say the country cannot return to the pre-1914 days and must not return to the terrible thirties. That is the keynote of all the planning going on now to anticipate the return of peace.

Pew Attacks Oil Pact—Acceptance of the Anglo-American oil pact would mean postwar federal regulation of the oil industry in the United States, J. Howard Pew, of the Sun Oil Company stated in a letter addressed to the Senate foreign relations committee.

Record PAW Certifications—Daily production of oil in September will top the five-million barrel mark for the first time in American history, production rates certified to the states by PAW disclosed.

Howard Pew Calls on Congress to Check Into Meaning of Oil Pact

A flat prediction that acceptance by the United States of the British-American oil agreement would "mean the establishment of a postwar federal regulatory agency for the petroleum industry in this country," made by J. Howard Pew, president of Sun Oil Company, in a letter to Chairman Tom Connally of the Senate foreign relations committee, last week spearheaded the fight which the oil industry is expected to make against the proposed regulation of foreign operations.

In a lengthy letter which reached Connally August 18, Pew charged that the pact was written so vaguely that it "already seems to have lulled many into complacency regarding its possible implications" and asserted that "the language of this agreement is as innocuous or as vicious as its administrators desire to make it."

Virtually every paragraph in this agreement contains a phrase which raises questions that to date remain unanswered, he said.

Mr. Pew's letter follows in part:

"I am writing to you, as chairman of the Senate foreign relations committee, because I am seriously disturbed over the possibility that the recent published agreement on petroleum between the United States and Great Britain may become the foundation stone for far-reaching and radical changes in the relationship of our government to the petroleum industry.

"It is neither an easy nor a pleasant task to write this letter because what I have to say may be most unwelcome in certain quarters. But I feel compelled to do so in the interest of protecting the livelihood of the thousands of workers employed by my company and those other hundreds of thousands of petroleum workers who have contributed so much to winning the war, and as contribution to the public welfare.

"My concern, in large part, grows out of the vagueness of the language of this agreement which already seems to have lulled many into complacency regarding its possible implications. I am conscious of the fact that, as someone has said, 'to be grandly vague is the shortest route to power for a meaningless noise is that which divides us the least.'

"The language of this agreement is as innocuous or as vicious as its administrators desire to make it. Virtually every paragraph in this agreement contains a phrase which raises questions that to date remain unanswered.

"What is the meaning of the phrase, 'fair prices?' What is meant by the use of the phrase in this agreement 'production equitably distributed among the various producing countries?' Does it contemplate the shutting down of oil wells in this country by governmental edict in order that oil wells in some remote part of the world might continue to produce their 'equitable' share of the oil needed to meet the estimated world demand? Is it contemplated that the exports in this country of finished petroleum products may be restricted in order that the 'sound economic advancement' of some other country may be encouraged? Does this agreement mean that at some future time the international petroleum commission may decide there is a surplus of oil in the world and that production in the United States should be restricted?

"Only those who negotiated this agreement know the answers to these questions. The remainder of us are completely in the dark. Yet under the vague language of this agreement all these things are possible should we have a government of men so inclined. Or, the phrases upon which these questions are based may be meaningless.

"I gather from the press today that you are inclined to take this latter view. But I am not yet ready to believe that this agreement is 'a meaningless noise.' On the contrary I see in it the possibility of a first step in what might be a carefully laid plan for a super-state cartel covering the petroleum industry in all parts of the world for the postwar years.

"I know I need not labor with you the evil nature of the cartel system.

Originating in Europe as a device to assure the security and survival of decadent and inefficient industries and economics, the cartel system is the antithesis of our American competitive system. It is a primary reason for the backwardness of European industry compared with our own. This our people know, and for more than fifty years it has been American public policy to outlaw monopolies growing out of schemes for price-fixing and production control. Only during the brief life of the National Recovery Adminstration in the thirties have we markedly departed from this policy. Cartel arrangements as has been demonstrated again and again, have as their purpose the stifling of competition. Their effect has been to destroy initiative, close the door of opportunity for new individual entrepreneurs and small business units, encourage inefficiency, raise prices and thus lower the standard of living. All these fruits of the cartel system result in the freezing of industrial progress to the detriment of workers, consumers and those with savings to invest. A cartel under the aegis of governments is no less reprehensible than a cartel entered into by individuals. Both are detrimental to the public welfare.

Answer to Cartels

"It is generally recognized that the American petroleum industry has supplied the No. 1 essential ingredients for United Nations victory in this war. Had this industry in the past been a part of a cartel system it never would have developed the facilities and organization to make possible its present tremendous output of war products. This is well illustrated by the fact that over 90 percent of all the oil resources in the world have been discovered and developed by Americans. Under a system which has given free rein to their initiative and resourcefulness, they have out-stripped in the development of oil fields the nationals of countries where the cartel system appears to be in high favor. . . Any destructive regulation of the oil industry would have repercussions affecting every industry and everyone in this nation.

"Consequently, I believe that any action of our government which may be open even to the suspicion of entangling any part of our American economy in the toils of this cartel system merits the most searching inquiry and the most careful scrutiny by congress. When such possible action is buttressed upon an international agreement, compact or treaty, it seems to me that the United States Senate, and particularly its committee on foreign affairs, has a grave responsibility to assure that the country thoroughly understands the course upon which we are embarking. For as you know, treaties once ratified become the supreme law of the land and actions taken pursuant therefore could well supercede our federal antitrust laws and state laws and policies.

"So far as this agreement goes toward eliminating national frictions through acceptance of the principles of the open door and equal opportunity in the acquisition of exploration and development rights in areas not now under concession and giving assurance for mutual respect of all existing valid concession contracts and lawfully acquired rights, it is a step in the right direction. My misgivings do not grow out of those parts of the agreement.

"Articles III and IV raise questions which I think merit careful attention. Article III provides for the establishment of an international petroleum commission upon which the two governments would have equal representation. The commission is charged with the duty of preparing long-term estimates of world demand for petroleum products, of suggesting the manner in which over the long-terms, this estimated demand may be satisfied by 'production equitably distributed among the various producing countries' in accordance with a vague criterion enumerated in the introductory article; of recommending to both governments 'broad policies for adoption by operating companies with a view to effectuating programs' thus suggested; of making certain other analysis, and 'to make, from time to time, such additional reports and recommendations to the two governments as may be appropriate to carry out the purposes of this agreement.'

"Although three different provisions of this agreement are made contingent upon this term: 'the purpose of this agreement,' such purposes are in no place specifically declared, unless the five vague and innocuous paragraphs comprisng the introductory article are to be taken as such a declaration of purpose. If this latter conjecture be correct then there is little limitations upon matters concerning the petroleum industry with which this commission is empowered to deal. The same logic applies in the absence of any specific declaration of purpose.

"Passing to Article IV, we find that the 'two governments hereby grant reciprocal assurances . . . that upon approval of the recommendations of the commission they will endeavor, in accordance with their respective constitutional procedures, to give effect to such approved recommendations.'

"All of this is against the background of a general declaration that the two gocernments will so direct their efforts with respect to petroleum resources that 'adequate supplies of petroleum shall be available in international trade to the nationals of all peaceable countries at fair prices and on a non-discriminatory basis,' and that 'the development of petroleum resources and the benefits received therefrom by the producing countries shall be such as to encourage the sound economic advancement of those countries.'

"Price Fixing Contemplated"

"In other words, this agreement lays down the groundwork for the regulation by the British and American governments of the production, refining and distribution of petroleum and petroleum products. Obviously some form of price fixing and production allocation is contemplated.

The public has not yet been informed of the nature of the discussions which resulted in the formulation of this agreement. Nor do we know the intentions of the negotiators. But it is reasonable to assume that these negotiators, when they proposed the establishment of an International Petroleum Commission with the function of preparing long-term estimates of world demand for petroleum and suggesting the manner in which 'this estimated demand may best be satisfied by production equitably distributed among the various producting countries,' were not engaged in the writing of meaningless phrases.

"They must have had in mind the thought that such estimates and suggestions would result in recommendations to the respective governments which called for action; that such nation would place certain restraints or obligations upon operating companies which they, in the natural course of their operations, would not therewise fulfill (otherwise there would be no need for governmental action); and each government gives reciprocal assurances it will act, that is enact legislation, to give effect to such recommendations when approved.

"Such recommendations would deal with the question of 'fair prices.' What is a 'fair price' for petroleum products at any time? If it is to be controlled by the age-old laws of supply the demand, there is no need for governmental action. Or is supply, which is to say production, (to be allocated in order to maintain some 'fair price') determined by a group of government officials? Will the basis for a 'fair price' be the operations of high-cost producers and refiners who have failed to keep abreast of technological developments and increased efficiency? Does this declaration for a 'fair price' contemplate the governmental imposition of both ceilings over and floors under petroleum price?

"The agreement in Article III makes the declaration that there are 'numerous problems of joint immediate interest to the two governments . . . which must be discussed and resolved on a cooperative interim basis if the general petroleum supply situation is not to deteriorate.' Aside from controversies which may arise over concessions in foreign lands, what are these problems? What is this threatened deterioration of the general petroleum supply situation?

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED August 19	August 12
Alabama	200	200
Arkansas	81,000	80,650
California	859,000	855,100
Colorado	8,150	8,100
Florida	50	50
Illinois	208,600	209,600
Indiana	13,000	12,900
Kansas	285,300	277,200
Kentucky	25,400	25,600
Louisiana	362,000	361,800
North Louisiana	73,000	72,800
South Louisiana	289,000	289,000
Michigan	52,000	57,800
Mississippi	45,750	45,400
Missouri	100	100
Montana	24,700	23,500
Nebraska	700	1,000
New Mexico	108,600	108,600
New York	14,700	14,200
Ohio	8,100	8,000
Oklahoma	340,000	339,600
Pennsylvania	43,500	43,800
Tennessee	35	35
Texas	2,108,900	2,108,900
Upper Gulf Coast	535,200	535,200
East Texas Field	371,800	371,800
Rest of Eastern Texas	147,700	147,700
Lower Gulf Coast	224,900	224,900
Southwest Texas	77,400	77,400
South Central Texas	19,300	19,300
West Texas	484,900	484,900
North Texas	148,800	148,800
Panhandle	98,700	98,700
West Virginia	8,700	9,000
Wyoming	91,700	98,600
Total United States	*4,690,185	4,689,735

* New all time peak.

It cannot grow out of insufficient supplies, once the war ends. Does it have to do with the possibility of postwar surpluses and a procedure for undertaking to handle them?

Cites Editorial

"The New York Times, in a recent editorial commenting upon the proposed internation petroleum commission and its functions of estimating long-term world demand, went to the heart of this matter when it said: 'Producers themselves have a vital interest in determining such acts, and among them are likely to make as good an estimate as any intergovernmental commission. A free world market, with free prices, moreover, will tell more about the real situation than any estimate, official or unofficial. What causes some misgiving about this aspect of the oil agreement is that oil is only one of a score of important international commodities. The prospect of each of these being controlled by a permanent International Commission would not be reassuring. True international cooperation consists not primarily in bureaucratic controls, with every question thrown into discussion by representatives of governments; it consists in maintaining that freedom of trade under which goods go to the points where they are in greatest demand from the points where they can be most efficiently produced. This end should be subordinated only to military necessity.'

"Final acceptance of this agreement by the United States undoubtedly would mean the establishment of a postwar federal regulatory agency for the petroleum industry in this country. The extent of the powers of such an agency, would depend upon the force which our government would give to this agreement. Such powers might be so wide as to supersede in virtually all respects the current petroleum policies of the several states. This in effect would mean the wrecking of our present Interstate Oil Compact, which has worked quite well.

"It has been suggested that this agreement on petroleum is nothing more than an international application of our Interstate Oil Compact. That is simply not so. In at least two particulars this agreement is the very antithesis of the Interstate Oil Compact. In the first place, our Compact has as its specifically declared purpose the conservation of oil or gas by the prevention of physical waste thereof from any cause. And the compact very specifically is not for the purpose of stabilizing or fixing prices or to promote regimentation.

"No such specific declaration appears in this agreement on petroleum. Instead, such vague phrases appear as that action should be taken 'with a view to the full satisfaction of existing demand,' and that 'the exploration for and development of petroleum resources, the construction and operation of refineries and other facilities in the distribution of petroleum shall not be hampered by restriction imposed by either government or its national, inconsistent with the purpose of this agreement.' There again we have that mysterious phrase: 'purposes of this agreement,' which seemingly is related to nothing that goes before or after.

"There is, moreover, a vast difference between our interstate Compact and this proposed international oil commission. Under the former, the power of regulating production and other functions of the petroleum industry is lodged within the state governments, where it should be, if such a function is to be exercised at all. But under this international compact the power of regulating production, as far as the United States is concerned, would of necessity, be centralized in the federal government, where under our constitution and the American way it has no right to be, under any circumstances... Such action would require freezing the position of all existing units of the industry, shutting the door against newcomers and creating a government-sponsored monopoly.

"But, it may be suggested, the negotiators of this agreement had no such intentions in mind. It is possible they contemplated limiting whatever controls are necessary to effectuate the agreement to petroleum products moving in foreign trade, thus leaving the American industry free insofar as its domestic business is concerned. But there is not one specific provision in this agreement to indicate that such is the intended course of action. If that is the plan, then it certainly should be specifically written into the agreement.

"Possibilities as I have mentioned above would require subsequent legislation and appropriations by Congress and that when such proposals are made it will be time enough to consider these broad questions. The point is not well taken. For to make agreements with other nations which we do not propose to live up to would bring upon our

Civilian Petroleum Products Stockpile Reduced 32 Percent Since August, 1941

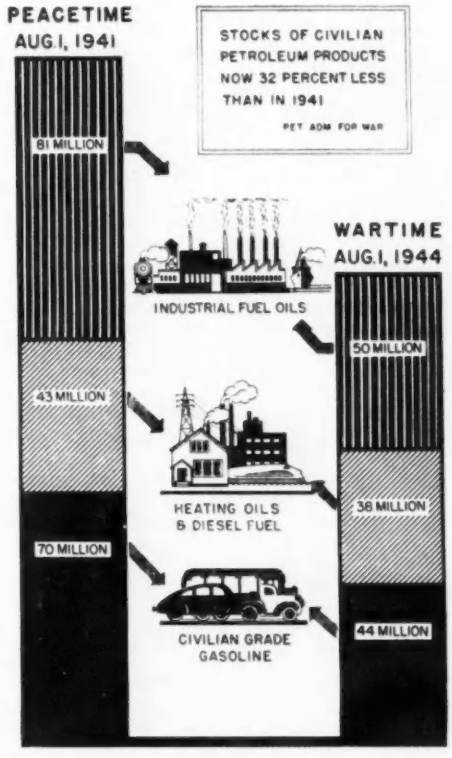
The nation's stockpile of essential civilian petroleum products has been reduced 32 percent since August, 1941, according to the monthly bulletin of the Petroleum Administration for War.

Deputy Petroleum Administrator Ralph K. Davies explained that stocks of industrial fuel oils, heating oils and civilian grade motor gasoline, which totaled 194 million barrels during peacetime 1941, were reduced to 132 million barrels this year.

Civilian gasoline is only 63 percent of prewar levels; heating oils have been reduced 12 percent, and industrial fuels are down to 61 percent.

Moreover, Davies declared that "with present seasonal demands exceeding refinery production, the nation's stocks will continue to decline."

Deliveries of civilian grade motor gasoline from refineries and terminals in the United States exceeded production during the period July 1, through August 5, by 92,500 barrels daily. Deliveries totaled 1,330,200 barrels daily while refinery production totaled 1,237,700 barrels. Corresponding deliveries during the first half of 1944 averaged 1,243,100 barrels daily, or 87,100 barrels daily less than during the period July through August 5.



Refineries and natural gasoline plants in the United States produced a daily average of 1,237,700 barrels of civilian grade motor gasoline during the period July 1 through August 5. This represents a decrease of 31,400 barrels compared to the daily average of 1,269,100 barrels reported for the first 6 months of 1944.

This reduction in refinery yields of civilian gasoline took place despite the fact average daily crude oil runs to stills during the last 5 weeks were 183,000 barrels higher than the daily average during the first half of 1944.

Less civilian gasoline is manufactured because more and more of the crude oil is refined into 100-octane gasoline and other military products. The result is a reduced yield of civilian grade gasoline from each barrel of crude. This reduction of civilian gasoline is now estimated to be three-fourths of a gallon less per barrel of crude than during the first half of 1944.

The total stocks of motor gasoline (civilian grade) held at refineries and terminals in the United States totaled 43,036,000 barrels on August 5. This is a decrease of 3,238,000 barrels since July 1. Inventory declines were recorded in all districts. The largest inventory draft appeared in District Two (Middle West) where a reduction of 1,719,000 barrels was recorded.

The production and stocks of civilian grade motor gasoline were as follows:

DISTRICT	Refinery Production (Barrels Daily)		Stocks (Barrels)	
	Jan. through June	July to Aug. 5	July 1	Aug. 5
1 (E. Coast)...	189,800	177,600	7,831,000	7,646,000
2 (Mid. West).	471,900	451,300	19,908,000	18,189,000
3 (Southwest).	405,500	410,700	12,503,000	11,998,000
4 (Rocky Mt.)	39,300	37,600	1,692,000	1,513,000
5 (Pac. Coast)	162,600	160,500	4,340,000	3,690,000
Total U.S.	1,269,100	1,237,700	46,274,000	43,036,000

country the just charge of national perfidy. Such a course of action, obviously, would greatly contribute in the postwar years to international frictions and misunderstandings rather than allay them. The time to deal with these matters is when they are first brought up.

"For these reasons, as one who has devoted his life to the petroleum industry and has a deep interest in keeping it upon a competitive basis, I fervently hope that your committee will insist that all pertinent and material facts relating to the negotiation of this agreement on petroleum be made public and the necessary steps will be taken to reject any effort to cartelize the American petroleum industry or to subject it to the possibility of price fixing and production controls."

Senate Committee Checks Anglo-American Oil Pact

Members of the Senate Foreign Relations Committee questioned Assistant Secretary of State Breckenridge Long and Charles B. Rayner, petroleum adviser, August 16 regarding the effects of the Anglo-American oil agreement signed August 9, but did not go into the question of whether ratification by the Senate would be required.

Following the meeting, which was held behind closed doors, Chairman Tom Connally said the two officials had assured the committee that no attempt was contemplated to regulate domestic production or world oil prices.

Long and Rayner explained the agreement in detail, outlining the major issues involved and the necessity for an international understanding to avert possible trade wars and cut-throat competition after the war by providing for the development of world oil resources on a conservation basis and with assurance of needed supplies to all consumers at a fair prices and without discrimination.

Connally explained that one of the questions discussed was whether the international agreement would override the Interstate Oil Compact and said that the department representatives insisted that it would not in any way involve production within the United States.

He said that, on the whole, there was little in the agreement which places any binding obligation upon the United States, but the determination which it should be subject to ratification by the Senate has not yet been reached and will be taken up again by the committee.

Connally emphasized that there is no controversy between the committee and the State Department, although some senators have expressed doubt as to the wisdom of the agreement. There have been no formal protests lodged as yet, however, he said.

Repairs on Continental Plant Near Completion

Continental Oil Company's fire-damaged 100-octane gasoline plant in Ponca City, Oklahoma is expected to resume full production August 25. A fire August 6 followed an explosion which wrecked the isomerization tower.

Oil Price Controls to End When Danger Of Inflation Passes, Bowles Promises

Price controls on crude oil and refined products will be lifted "as soon as there is no longer any danger of inflationary price increases," it was promised by Price Administrator Chester Bowles August 17.

Outlining the general policies to be followed by OPA during the reconversion period, Bowles declared that everything possible must be done to encourage complete use of all productive facilities so that we maintain a level of output far above that of 1940."

"Our pricing policies will be based on this assumption," he said.

Bowles explained that if civilian production in 1946 is no higher than in 1940 and if the hours of labor are the same, there will be a total of 19,500,000 persons unemployed. These figures would include the 8,900,000 unemployed in 1940, 8,000,000 who would be thrown out of work by improvements in efficiency or technological advancement since that year, and the 2,600,000 workers who have joined the civilian labor force.

The Administrator declared the cost of living will be held tightly in check during the reconversion period. OPA will continue to price products which have been available to consumers throughout the war period according to its present standards. On items coming back into production prompt action will be taken, either company by company or on an industry-wide basis, according to circumstances, to fix prices on new products on a basis which will assure the broadest markets and insure maximum employment.

"If the prices on conversion items are set too low they may further add to a dangerous drop in national purchasing power (resulting from the elimination of overtime wages upon return to the 40-hour week) and hence help pave the way for another depression," Bowles said. "If, on the other hand, prices are set too high, our savings and current dollar incomes will be dissipated to pay unnecessarily high prices and we will soon find ourselves repeating the deadly cycle of 1919 with booming inflationary prices followed by an inevitable collapse and economic disaster.

"Price control and rent control must be kept in effect as long as they are needed — but not one month longer than that," Bowles declared.

"As soon as there is no longer any danger of inflationary price increases in a particular commodity field, price controls should be removed from that field. The speed with which this decontrolling process can be carried out will depend entirely upon the course of the war and the economic condition which we face in the reconversion and immediate postwar periods."

DR. G. S. DILLE, Tulsa geologist, has been named manager of the land and geological department of the Deep Rock Oil Corporation, effective September 1.

Dr. G. S. Dille

A graduate of Iowa State University, Dr. Dille is a former professor of geology at Coe College and was later with The Texas Company until 1936, when he resigned to enter private business as a consulting geologist. He is a member of the American Association of Petroleum Geologists, the American Institute of Mining and Metallurgical Engineers, and a past president of the Tulsa Geological Society and the Tulsa Stratigraphic Society.

Film, "Oil for Tomorrow," Available for Showings

"Oil for Tomorrow," the new sound and color motion picture recently completed by the Interstate Oil Compact Commission as a part of its nationwide educational program, is now available for free industrial and civic showings.

To meet requests to borrow the film, the Compact has a number of prints for distribution at its headquarters office in the State Capitol, Oklahoma City. Applications for use of the film for free showings before civic, industrial and educational groups should be addressed to that office.

Increased 80-Octane Output Asked by PAW

PAW is calling on all refiners to step up their output of 80-octane all-purpose gasoline to the maximum extent possible without interfering with the 100-octane program.

The shortage of 80-octane, which powers the motorized forces engaged in campaigns around the world, results from the stepped-up tempo of military operations in Europe and the expanded 100-octane production. Due to the shortage of aviation base stocks for blending, 91-octane is being stepped up to 100-octane, being replaced by 87-octane gasoline which, in turn, is replaced by 80-octane.

Spacing Rules Changed for Fields in Texas-Louisiana

Spacing requirements for new wells in 79 fields in Texas and Louisiana were reduced from 40 to 10 acres August 17 in supplementary order 13 to PAO-11, issued by PAW.

The supplementary order will permit an operator to drill a new oil well on a 10-acre unit, provided the unit is in the salt dome fields or fields of similar characteristics. In those fields, also, the reworking, deepening or recompletion of oil wells into another pool may be carried out on a 10-acre spacing basis.

It was emphasized that nothing in the new order suspends applicable state regulations governing the distance between wells or the distance of wells from property lines.

The order will eliminate the neces-

sity for filing a large number of applications for authority to drill on units of less than 40 acres, a condition that prevailed because of the complex geological conditions in the Texas and Louisiana fields, it was explained. In fields in the 2 states not listed in the order, the provisions of supplementary order 12 will continue to apply.

Gasoline Production Hits New High in June

Production of natural gasoline and allied products hit a new record in June with an average daily output of 11,462,000 gallons, compared with 11,214,000 gallons in May and 9,873,000 gallons in June, 1943, it was announced August 15 by the Bureau of Mines. Output for the first six months of the year aggregated 2,004,576,000 gallons against 1,792,140,000 gallons in the corresponding period in 1943.

Production of light products during the half-year increased in all categories except benzol, which remained constant, and liquefied refinery gas, in which a slight decline was recorded.

Included in the January-June production were 1,062,684,000 gallons of natural gasoline against 963,480,000 gallons last year; 389,046,000 gallons of cycle products against 330,960,000; 104,454,000 gallons of iso-butane at natural gasoline and cycle plants against 76,062,000; 448,392,000 gallons of other liquefied petroleum gases at natural gasoline and cycle plants against 421,638,000; 80,346,000 gallons of liquefied refinery gas at refineries against 84,588,000 gallons, and 50,400,000 gallons of benzol, no change.

Total stocks of natural gasoline and allied products increased by 1,722,000 gallons during June, those at refineries increasing from 89,208,000 to 98,616,000 gallons to offset a decline in stocks at plants and terminals from 97,104,000 to 89,418,000 gallons, the bureau announced.

Tide Water Liberalizes Soldiers' Allowances

Tide Water Associated Oil Company employes who have entered or will enter the armed forces will receive $200 each, if married, or $100, if single, according to President William F. Humphrey.

The company also plans to grant service credit equal to double the period of military leave of absence to employes re-entering company service. The firm has also cancelled indebtedness due the company from employes and customers at the time they entered the armed services for petroleum products purchased through credit courtesy cards.

Employes in service had previously been presented $150 bonds and had received a year's premium on policies of government life insurance.

New Casper Office

The crude oil purchasing department of Standard Oil Company (Indiana) is opening an office in Casper, Wyoming, to handle the business of that department in the Rocky Mountain area, under the jurisdiction of the general manager's office in Tulsa. D. R. Ryan, who has been with Standard and its subsidiaries since 1930, will be in charge of the Casper office.

P. M. Broach, assistant chief scout in Tulsa, will temporarily represent Stanolind Oil Purchasing Company at Tyler, Texas.

Ickes Would Circumvent Chiselers In Disposition of Surplus Property

Centralization in the General Land Office of all activities connected with the disposition of government-owned surplus lands was urged on a Congressional commitee August 16 by Secretary Ickes, while on the same date Representative Francis E. Walter of Pennsylvania disclosed that he would seek a ban on any postwar conversion of the Big-Inch pipe line to natural gas transport without the approval of Congress.

Testifying before the Senate military affairs committee on legislation dealing with the disposition of surplus property, Ickes warned against "cheats and chiselers" who in the past "have thought out ways and means to tap the treasury and suggested placing administration of each type of surplus property in the hands of an agency which has had wide and long experience in the management, protection and disposition of that type of property.

The Ickes Plan

Ickes outlined a set of principles in the handling of surplus lands, as follows:

1. A complete inventory of all government-owned land.

2. Transfers of property from agencies holding it to agencies needing it.

3. Preferences to veterans in acquiring surplus lands, with subordinate preferences to former owners of the properties.

4. Flexible disposition procedures "that will facilitate the most practical, inexpensive and effective disposition of property," but tight enough to prevent fraud or collusion in sales, speculation in Government property or the promotion of monopolies.

5. Public domain lands to be disposed of only under the public land laws, except in cases where permanent structures have been constructed on the lands.

6. Federal payments in lieu of taxes on government-owned properties determined to be surplus but not immediately returned to private ownership.

Ickes told the committee he favored a bill introduced by Senator O'Mahoney of Wyoming rather than the legislation under consideration, because it included a provison reserving to the government the right to oil and other minerals underlying government-owned lands. The O'Mahoney bill, he said, is "the only bill now pending before the congress which, in my opinion, fully recognizes the specialized nature of the real property disposal problem."

It was estimated that there will be approximately 5,000,000 acres of land to be disposed of after the war, much of it in oil-producing states. Estimates also placed the value of tankers owned by the government at the end of the war at $1,970,000,000, and $1,160,000,000 worth of petroleum products held by the government abroad and $1,000,000,000 worth held in this country.

Declaring that use of the Big-Inch as a natural gas pipe line would threaten employment in the mining, railroad and retail fuel industries, Representative Walter attacked a suggestion made last February by Sidney S. Swensrud, vice president of Standard Oil Company (Ohio) that the two big Texas-East Coast pipe lines be converted to gas service after the war.

Such conversion, he said, would wipe the anthracite coal industry out of existence and "the war emergency pipe lines built with the public-tax funds, partly paid by the anthracite-producing companies, should not be permitted to become a competitive weapon with which the anthracite industry can be destroyed."

During the week, the House considered legislation setting up machinery for disposition of surplus government property, under which the Administrator would be required to hold the synthetic rubber plants until Congress established its policy with respect to that industry.

Aluminum plants also would be subject to the same reservation, the reason being that the aluminum and rubber programs have been subject to wide-spread criticism. An additional reason for not throwing the rubber plants into the pot of surplus materials to be disposed of by the Administrator under his general powers was the recognition that rubber will enter very largely into the peace negotiations looking to international compacts on major commodities of world consumption.

Disposition of War Plants Planned in Senate Bill

Legislation embodying principles to be followed in the disposition of surplus properties owned by the government was introduced in the Senate August 10 by a bi-partisan group consisting of Senators James Murray of Montana and Tom Stewart of Tennessee, Democrats, and Robert Taft of Ohio, Republican.

The measure sets up a specific procedure for disposition of war plants, requiring a certificate of validity from the attorney general before any option for acquisition of government-owned plants can be exercised. These provisions also provide:

The attorney general shall "devise" as to whether monopoly or restarint of trade would result from acquisition of plants costing $1,000,000 or more, before sales can be made. This "advice" would not protect the purchaser from any anti-trust suit arising out of the acquisition at a later date, but was represented as being a good defense if suit was brought.

Any plant purchased must be operated for two years following acquisition, under penalty of cancellation of the purchase contract for failure to operate during the period, thus preventing purchase of a plant for standby use or to immobilize it for competitive reasons.

The surplus property administrator must report to Congress on plans for disposing of 13 categories of war plants and property, including synthetic-rubber plants, processes, techniques and inventions, aviation-gasoline facilities and transportation facilities.

Provisions of New Stripper-Well Subsidy Plan Clarified by OPA Announcements

Provisions of the stripper-well subsidy plan which went into effect August 1 were clarified by the OPA August 16 in two announcements, one dealing with requirements for qualifying pools for the premium payments, the other directed to the purchasing refiners in Kansas and Oklahoma.

Crude producers were informed that on pools not qualifying for inclusion on the basis of December, 1943, production and well data, or on pools for which they wish to apply for a change of premium, they must submit certain data for the 12-month period preceding the date of application, including the number of producing oil wells in each pool on the last day of each month in that period and the total production of crude in the pool during the entire period.

Producers were reminded that pools are deemed qualified for subsidy payments on the basis of information supplied by the state conservation authorities and that inclusion of pools in the plan depends upon proper certification of the facts by those authorities. Where there is question concerning the geographical limits of pools for which premium payments have been authorized, the geological definitions of pools, horizons or zones, and the identification of pools from which individual wells produce, producers should obtain certification of the facts from the state conservation authorities.

In dealing with the situation in Kansas and Oklahoma, OPA asked the purchasers of crude, who are generally refiners, to assist in determining whether specific dollar-and-cent ceiling prices should be established for crude of practically all the degrees of gravity produced in those states. It was explained that the purpose of this would be to enable such producers as are selling under their maximum prices to receive the full premiums, and at the same time to enable purchasers of the oil to be reimbursed fully for the premium price increases.

Kansas and Oklahoma crude purchasers have been asked to submit as soon as convenient:

1. Information, covering the month of June, 1944, showing total purchases of crude in Kansas and Oklahoma, total barrels of crude between 21 and 29 degrees gravity purchased in those states, total barrels of crude between 21 and 29 degrees gravity purchased from pools in Kansas and Oklahoma listed as entitled to payments under the premium plan, and the prices paid for all crude purchased in those two states.

2. Comment either for or against adoption of a proposed scale of specific ceiling prices for Kansas and Oklahoma crude oil, starting at $1.25 per barrel for oil of 40 degrees gravity and above, with two cents off for each degree of lower gravity, ranging down to 85 cents per barrel for 20 degree gravity oil. The 85-cent ceiling price also would apply to all gravities produced under 20 degrees.

At the present time, it was explained, ceilings are established on the basis of October 1, 1941, posted prices, which results in generally uniform ceilings for crude between 29 and 40 degree gravity as the same levels as the proposed scale. However, it was said, varied postings in the base period for oil under 29 degrees gravity cause some companies to sell at prices lower than others, although actually they are entitled to sell at the highest base period price posted in the area.

"Under the stripper well premium plan a problem has been created by this condition because full premiums will not be paid by Defense Supplies Corporation where purchasers are not paying the maximum price," it was explained. "In such cases the premiums are the 35, 25 or 20 cents a barrel, as the case may be, less the difference between the purchaser's price and the legal maximum price."

Kentucky Pools to Lose Subsidy Payments

Orders prepared by the OPA over the weekend will remove a number of Kentucky pools from the list of those eligible for subsidy payments for stripper-well production, on the basis of a finding that they produced over nine barrels per well per day in December, 1943.

The pools to be removed will include Clay, Webster County; Chapman, Raleigh and Spring Grove, Union County; Cairo, Corydon, Geneva, Greenbriar and Panther, Henderson County; and North Livermore, McLean County.

The following additions and corrections also will be announced:

Add: Haynesville (Buck Range or Blossom sand), Claiborne County, Louisiana, 20 cents; Hardy, Lea County, New Mexico, 20 cents; Penrose, Lea County, New Mexico, 20 cents; Barnett Creek, Ohio County, Kentucky, 20 cents; Noble South, Richland County, Illinois, 20 cents.

Change: Sebree, Webster County, Kentucky, from 25 to 20 cents.

New Orleans Controllers Honor F. P. Hagaman

F. P. Hagaman, comptroller of Standard Oil Company of Louisiana, has been named vice president of the New Orleans Control of the Controllers Institute of America.

C. S. Loy, assistant controller of Humble Pipe Line Company, was similarly honored by the organization's Houston Control, and W. M. Padgett, assistant secretary of Pan American Pipe Line Company, was chosen secretary-treasurer of the Houston chapter. J. A. Goodson, controller of Hunt Oil Company was elected first vice-president of the chapter in Dallas, and J. Norvell Walker, vice-president and controller of Royal Oil & Gas Corporation, was elected secretary of the Philadelphia Control.

Louisiana-Mississippi Pipe Line Completed

The 7.6-mile of 6⅝-inch pipe line from the Delacroix pool in South Louisiana to the Mississippi being built by The Texas Pipe Line Company has been completed. Sharman and Allen were the contractors.

Oil Country Distributor Warehouse Rules Changed

New regulations covering opening of new warehouses by oil country distributors were issued by the War Production Board August 17, taking them out of the class of other distributors of iron and steel products, who may open in locations not operated prior to April 1, 1944, only by purchasing their entire working stock from holders of idle or excess inventories.

The board explained that these provisions are not practicable for distributors who principally serve the oil drilling industry and whose branch warehouses usually follow the drillers from place to place so that material may be available on the spot to fill local emergency demands promptly.

Accordingly, to enable oil country distributors to operate in their normal manner, the WPB will consider exceptions from the general restrictions on the opening of new establishments from companies whose principal business in merchant trade products consists of furnishing such materials from stock to petroleum drillers.

All applications should be addressed to the warehouse branch, steel division, War Production Board, in Washington. Distributors who have been given exceptions from the order since April 1 need not file new applications.

Skelly Oil Company to Finance Retirement Plan

Skelly Oil Company has approved a retirement benefit plan for its employes effective last July 1, the cost of which will be borne entirely by the company. Under the plan which affects 1670 employes including those in the service on leave of absence from the company, employes with three years service or longer will receive retirement pay when they reach the age of 65, at the rate of one percent of the monthly pay for each year in service with the company, except the first three years. The plan is based on purchase by the company of life annuities for employes, including officers.

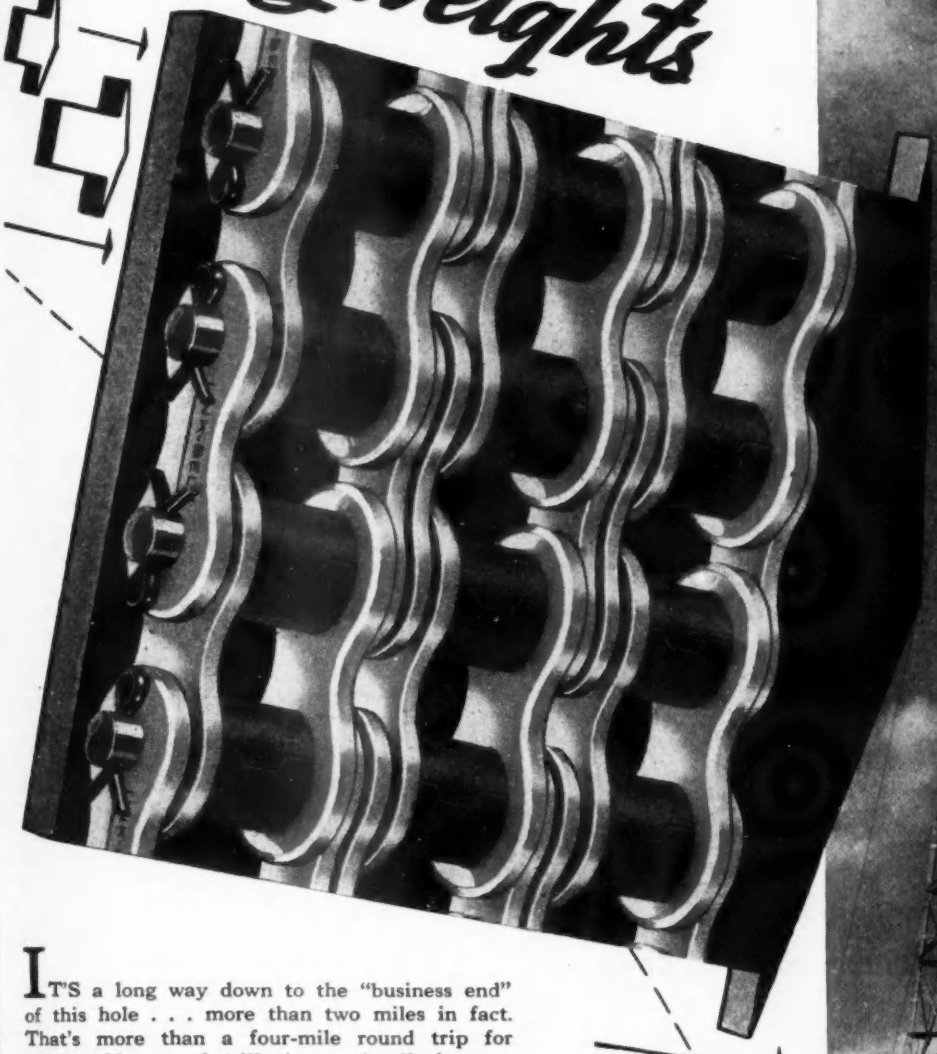
Although Skelly Oil Company has for years maintained a separate employe group life insurance plan providing for death benefits this is the first retirement plan approved by the company which rounds its 25th year next October. In case of voluntary or involuntary retirement of a participant in the plan before he has reached his normal retirement date, the employe will be entitled to receive, as a vested monthly retirement income deferred to commence on his normal retirement date, a percentage of the retirement income purchased for him by the company up to the time his services terminate under provisons of a schedule covering age and length of previous service.

Texas Well Permits

Permits to drill 147 new wells in Texas were approved by the Texas Railroad Commission last week. The list included 46 in West Texas, 35 in North Texas and 24 in Southwest Texas.

There were 17 from the Panhandle, 12 locations in the Gulf Coast, 8 in West Central Texas and 5 in East Central Texas.

Pulling Power for Heavyweights



IT'S a long way down to the "business end" of this hole . . . more than two miles in fact. That's more than a four-mile round trip for nearly 100 tons of drill pipe, and calls for top-notch drives. On internal combustion power driven rigs like this one that usually means Link-Belt Silverlink Finished Steel Roller Chain on the drawworks drives. So well has this strong, flexible, accurately-finished all-steel chain performed under toughest-known drilling conditions in most fields of the world that it continues to widen its margin of popularity among the men who build, the men who buy, and the men who operate drilling rigs.

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Daily Petroleum Output in September To Be Greatest in Nation's History

Daily production of petroleum liquids in September will top the 5,000,000 barrel mark for the first time in American oil history, under production rates certified to the states by PAW.

PAW called for a daily output next month of 5,051,300 barrels daily, an increase of 105,900 barrels over the rate certified for this month. These figures provide for a daily production of 4,654,300 barrels in August, and 295,100 barrels of natural gasoline and condensate against 289,100 barrels.

Taking advantage of all possible resources, PAW called for increased output from all three of the District 1 states, where current production indicates a possible small expansion, raised the District 2 total by 11,600 barrels to take in additional productive capacity of Kentucky and Oklahoma newly-discovered reserves, and shoved California and Texas output to a figure which it was admitted may be in excess of the maximum efficient rates for some fields.

"The urgency of military requirements," it was explained by Deputy Administrator Ralph Davies, "has made it necessary to certify, as a matter of war necessity, a rate of production for California and Texas during September which, in the technical opinion of PAW, may well result in exceeding the maximum efficient rates of production for some fields in those states.

Estimates of natural gasoline and condensate production were upped for all but four states, three of which were unchanged and one reduced, as follows:

Pennsylvania, 1000 barrels against 800 barrels for August; West Virginia, 5400 barrels against 5000 barrels; Illinois, 12,000 barrels against 11,500 barrels; Kansas, 5700 barrels against 4300 barrels; Kentucky, 2700 barrels against 2500 barrels; Michigan, 500 barrels against 400 barrels; Ohio, 400 barrels against 300 barrels; Oklahoma, 26,800 barrels against 27,000 barrels; Arkansas, 4900 barrels against 4500 barrels; Louisiana, 35,000 barrels, unchanged; New Mexico, 5500 barrels, unchanged; Texas, 140,000 barrels against 138,000 barrels; Montana, 300 barrels, unchanged; Wyoming, 3200 barrels against 3000 barrels; California, 51,700 barrels against 51,100 barrels.

In District 1, PAW called for a daily crude production of 13,800 barrels from New York, against 12,800 barrels this month; 42,100 barrels from Pennsylvania, against 41,000 barrels, and 9000 barrels from West Virginia, against 8800 barrels.

Four changes were made in District 2 rates, three of them increases, with Kentucky going to 25,000 barrels against 23,000 barrels this month; Ohio to 9300 barrels from 8800 barrels and Oklahoma to 344,000 barrels from 332,000 while Illinois dropped back to 210,000 barrels from 215,000 barrels. The other states will continue their August rates of 14,000 barrels for Indiana, 274,000 barrels for Kansas, 51,000 barrels for Michigan, 1000 barrels for Nebraska.

An increase in Texas output from 2,099,000 to 2,163,000 barrels and in Mississippi from 40,000 to 45,000 barrels were the only changes in District 3, with present rates continuing for Arkansas, 78,000 barrels; Louisiana, 350,000 barrels, and New Mexico, 110,000 barrels.

The only change in District 4 increased Colorado production from 7900 to 8000 barrels, Montana continuing at 24,000 barrels and Wyoming at 100,000 barrels because of inability to expand the capacity of available transportation facilities to move crude within and out of the area.

California production was increased from 866,000 to 885,000 barrels.

19 Tankers Added to Oil Fleet During July

Nineteen standard tankers were added to the oil fleet in July, it was disclosed in a Maritime Commission report showing the delivery of 126 new ships during the month.

Six of the tankers were built by Kaiser Company at its Swan Island yard, Portland, and the same number by Sun Shipbuilding and Dry Dock Company, Chester, Pennsylvania, while 4 were delivered by Marinship Corporation, Sausalito, California, and 3 by Alabama Dry Dock and Shipbuilding Company, Mobile.

One concrete barge was completed during the month, being delivered by Barrett and Hilp, San Francisco.

Oklahoma Extraction Plant Being Erected

The fiirst gasoline extraction plant for the West Edmond pool of Central Oklahoma is being constructed by Peppers Refining Company on the French lease in NE NW 33-14n-4w, and will have a capacity of 10,000,000 feet of gas daily. Gas in the field treats out at the rate of a gallon of gasoline per thousand cubic feet. The gathering system has been laid and the company is erecting an office building and several homes for employes.

Name of Firm Changed

Stockholders of the H. F. Wilcox Oil & Gas Company voted at Tulsa to change the name of the company to the Wilcox Oil Company. H. F. Wilcox, founder, disposed of his interests more than a year ago. Frank H. Dunn has since been president. The new corporate name will be filed with state authorities in Delaware where the company charter was issued and will become effective upon issuance of a new certificate.

Kraus Earhart Cited

Kraus Earhart, district director of the facility security division, Petroleum Administration for War, was cited at New Orleans by Vice Admiral R. R. Waesche, commandant of the United States Coast Guard, for work on the New Orleans port security committee. In the same ceremony the port committee was awarded the United States Coast Guard shield of honor by Rear Admiral Joseph F. Farley, assistant chief Coast Guard officer.

Labor Ceilings Ordered In Byrnes Directive

War Mobilization Director James F. Byrnes has issued the following directive regarding the administration of plans for labor utilization, recruitment, labor ceilings in war and civilian plants, and the decentralized procedure, so that problems can be handled locally by those having intimate knowledge of conditions.

1. Based upon the requirement for essential production and services determined by the area production urgency committees, the manpower priorities committees in all Groups 1 and 2 labor areas shall promptly establish employment ceilings in war industries to enforce better utilization of existing labor; it shall establish ceilings in less essential industries which will make labor available for essential war production; it shall set manpower priorities; and it shall take such other measure as may seem to be necessary to insure proper and full utilization of existing manpower. In case of disagreement, the decision of the chairman of the manpower priorities committee shall be deemed as final, shall become immediately effective, and shall not be suspended pending any appeal that may be taken.

2. The determinations of the area manpower priorities committee made under 1 will be executed through the responsible government agencies. Upon application of the chairman of WMC, all interested governmental agencies will apply any and all sanctions lawfully available to the government including the allocation of materials, fuel, power and services to insure compliance with the determination of the Committee.

3. If an area production urgency committee, established in a Group 1 or 2 labor area, certifies that the need for production is immediate, the WMC will not delay or refuse to proceed with labor referrals in the area on the ground that proper utilization of labor is not being made.

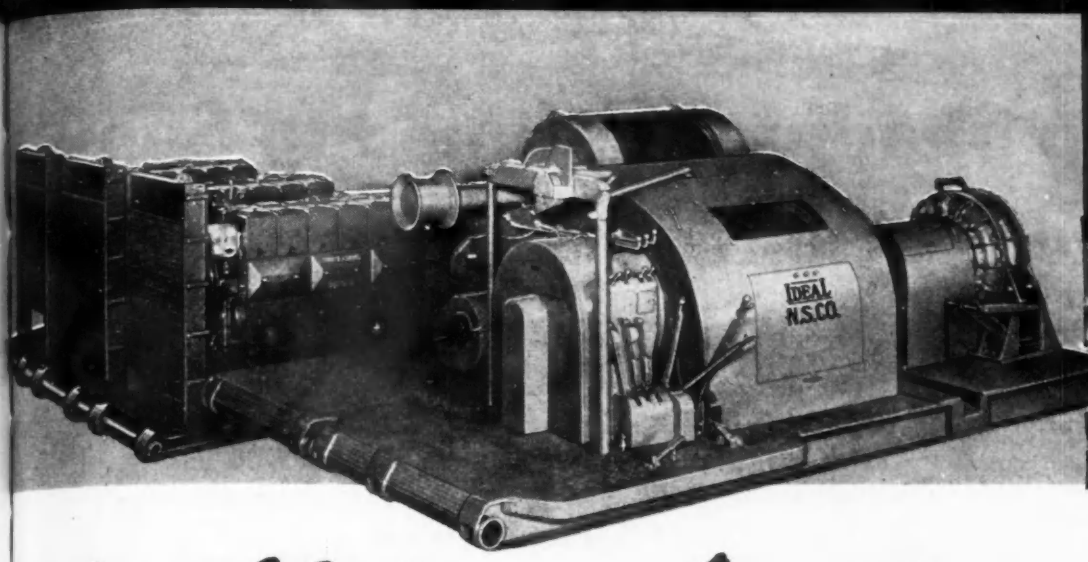
4. Area production committees and manpower priorities committees shall be immediately established in groups 3 and 4 labor areas. The area production urgency committees which will be established in such areas are charged with the responsibility of authorizing increased civilian production. No increased civilian production will be authorized in the area without the approval of this committee. It will not authorize such production until the representative of the WMC within the area has certified in writing to the committee that labor is available for such production without interference with local and inter-regional labor recruiting efforts therein.

5. The general procedures established in the West Coast manpower program, effective September 15, 1943, will continue to be applicable except as herein modified.

6. All responsible governmental agencies shall promptly issue any appropriate regulations to make effective the foregoing.

☆

S. Y. WONG, here from China to study pipe-line operation for his government, has been making an examination of installations in California.



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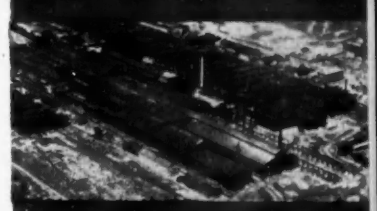

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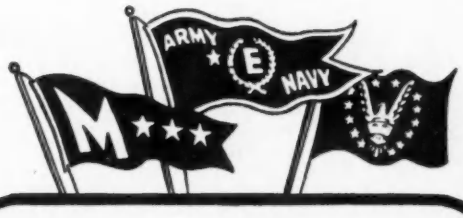

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Area Map Shading Designed to Show Encroachment of Salt Water

By dividing a lease to allocate proportional drainage areas to all wells in tract and shading a scale map of area to indicate ratio of brine to total well output, visual evidence of encroachment enables operators to schedule effective flowing program

By HARRY A. HESS

IN estimating reserves and planning future operations, the nearness of salt water to any well or lease is one of the most important factors to be considered. This imminence of brine is equally critical, whether the invading brine front be from the side, as with a salt-water drive field (such as East Texas) where the advancing oil-water line comes in from the west, or where the brine is directly below the oil, as in the case of many salt domes of the Gulf Coast.

An engineer would like to be able to draw a line through the company's property map showing the exact salt-water front, or be able to indicate through contour lines, the percentage of water in the wells as it varies from zero at the center to 100 percent at the edge. Unfortunately, due to sand conditions, the methods used in completing the various wells, rate of production and other factors inherent to the reservoir or the human element in operation, the water seldom encroaches on an even front, but may appear in a few wells near the center of a field long before it affects production of other wells nearer the edge of the field, while between these extremes may lie a heterogeneous mixture of good wells and bad.

In order to portray this condition, the author proposes to construct a scale map of the area (lease or company holdings, depending on the area involved) and shade in the percentage of drainage area of each well equal to the percentage of salt water produced by that well.

Basis of Comparison

The map on opposite page is a reduced reproduction showing a certain survey of East Texas field, illustrating conditions as set forth statistically in a recent report of the Railroad Commission. The percentage of salt water production is shown in large figures above the dot representing the well in close relation to its actual positioning with regard to lease lines. The approximate percentage of each lease that is "watered out" is shaded. Of course, the water does not encroach upon any given well exactly in the manner shown, but the shading does give a direct basis of comparison between wells on adjacent leases.

Other uses suggested for such a map, may be to show how an artificial flood is progressing, or as a guide for future operations of a salt-water disposal company in the planning of pipe lines, central gathering stations, input wells and settling pits. It may also be of help to show pipe line and natural gasoline companies how rapidly the properties to which they are connected are being drowned out, and thus indicate most economical plant revisions in advance of actual pipe shifts.

The map would be helpful to engineering associations to show how repressuring projects are controlling the brine front. Such a map could be brought to date periodically to show further encroachment and the results of remedial work on the wells. It would promote efficient salt water control because the operator whose production methods (including such basic factors as type of completion, depth of producing zone penetration, etc.) tend to assist the encroachment of salt water is as noticeable as the operator who completes and produces his wells in such a manner as to exclude or retard the intrusion of brine.

Since encroachment of salt water in a water-drive field is progressive, and brine percentages are increasingly larger as the field ages, the revisions to the map would consistently be additive. That is, revisions of the shaded areas to bring the former data current with the latest release of the Railroad Commission (or other reporting agency) would be in the form of further shadings. There would be no occasion for attempted erasures or widening of the clear area surrounding the well—much as operators would desire such a condition to occur—and any confusion as to border lines indicating present and past percentages would be avoided.

A further suggestion for adding to the shaded areas, where such is marked with crayon or water color, is to suggest the use of different colors for the subsequent revisions, so that not only would the actual brine percentage of the well's production be visualized, but, by a comparison of varicolored areas, the progressive change also would be apparent.

For repressuring projects, where it occasionally happens that the advancing water front is arrested, and even driven back (in terms of brine produced per barrel of total fluid) revision of such improved areas on the shaded map might be attained by trimming paper or cardboard patches to approximate the clear or net oil production rate of the unit, and this marker attached to the map by a tack which would replace the dot nominally denoting well location on the original layout.

Method of Construction

Construction of the initial shading areas can, in most cases, be attained by marking off perpendicular bisectors between adjacent wells and calculating the area to be shaded—or, if a planimeter be available, running over the area with such instrument—so as to give proportional areas for shaded and clear sections of each producing or well unit.

When such a map is applied to a field under proration, such as the East Texas field, the percentage of brine shown by the shading is proportioned to the relation between brine and total fluid *allowed* under regulations, and is not to be construed as indicating that the well is approaching depletion, or has reached the same depletion percentage as is shown for salt water.

Since the salt water problem is among the foremost "headaches" of present day production operations, any attempt to show as nearly as possible actual conditions should be of assistance in bettering operations by more exact control of brine flow through the provision for its restraint, or subsequent removal, through trends indicated on the map.

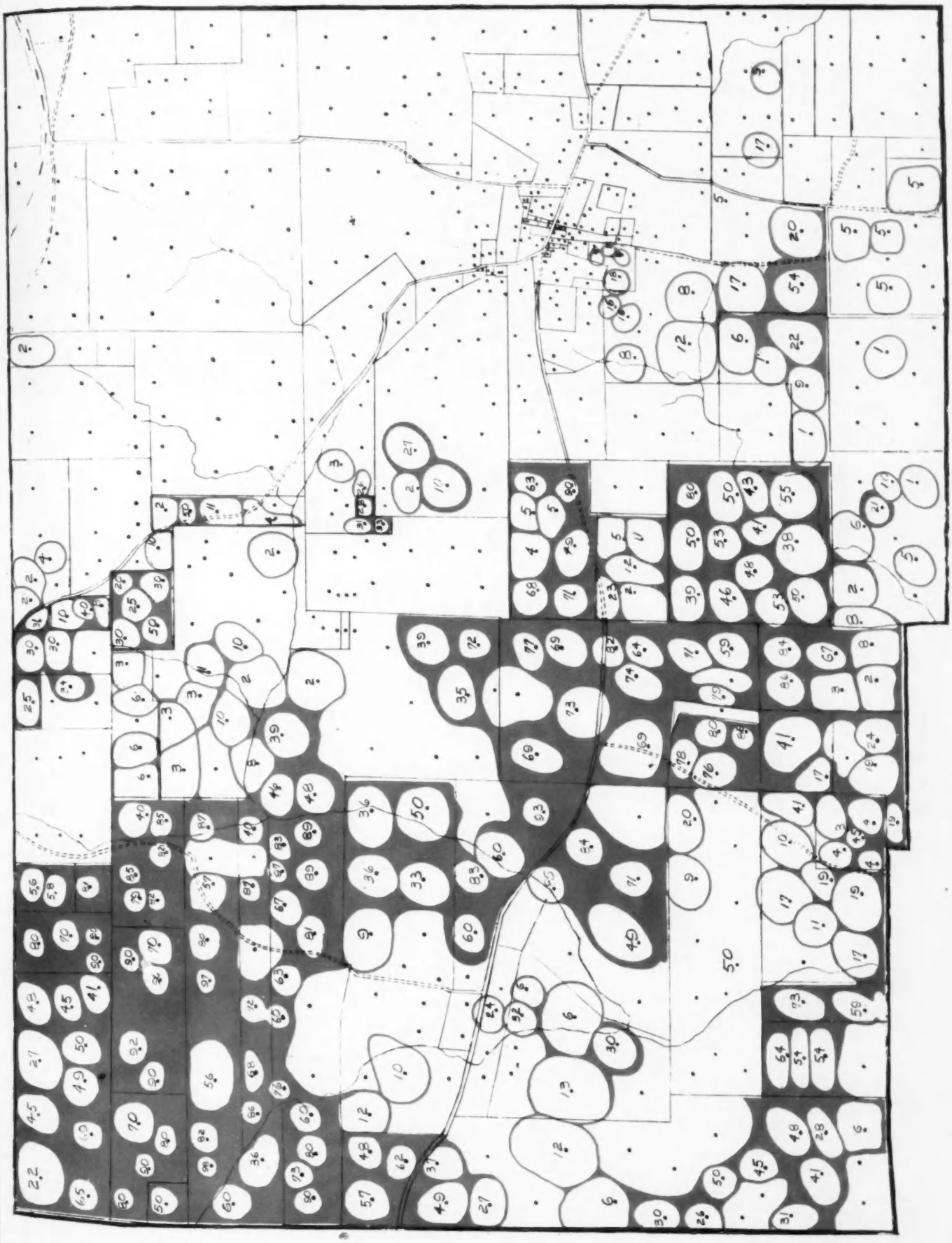
Cable Tool Wages Hiked By WLB in 3 States

The Eighth Regional War Labor Board has adjusted cable tool wages upward for new well operations in Louisiana, Texas and Oklahoma.

It is now permissible to pay cable tool drillers up to $1.58 per hour and tool dressers up to $1.375 per hour, where cable tool drilling operations are confined to new wells. This will include wells drilled from the surface with cable tools, or those finished with cable tools after rotary tools have been used. The rate for a cable tool driller is the same as for a rotary driller. The new cable tool rates are the WLB "minimums" and may be paid only upon approval of application on the regular WLB Form 10.

Since this WLB ruling only affects Louisiana, Texas and Oklahoma, cable tool operators in Kansas, Illinois, Michigan and New Mexico, and other states, may find their Regional War Labor Board offices sympathetic to wage adjustments because of the action of the Dallas WLB.

The cable tool rates for drillers and tool dressers remain the same in WLB Region 8 where operations are confined to cleaning out and normal working-over operations. These rates are those that applied for all cable tool operations prior to the recent upward adjustment for new-well operations.



Reduced reproduction of a survey in East Texas showing salt-water conditions. Percentage of salt-water production is shown in large figures above the dot representing the well. The approximate percentage of each lease that is "watered out" is shown in color, giving a direct basis of comparison between wells on adjacent leases.

Portable above-ground pipe line and camouflaged steel storage tanks near Naples, Italy

Oil-Field Methods Aid Army

Industry not only furnishes vital petroleum but also supplies the important "know-how" in laying portable pipe line and building tanks that get oil into fight

LOGISTICS—that magic word of modern warfare—was reduced to the common vernacular years ago by a Confederate General, Nathan Bedford Forrest, who ascribed victory to the army which "got there fustest with the mostest." If General Robert E. Lee had had a magic formula for doubling his facilities for transporting supplies into the battle zones the war between the states might have ended differently.

By developing an adaptation of the oil industry's normal method of moving petroleum supplies overland, the United States Army suddenly has doubled its ability to move supplies to the scene of battle. In the present war, because of greater use of mechanized units, half of all the supplies required at the battle front consist of petroleum products—aviation gasoline, motor fuel, diesel fuel, and lubricants. In the early days of the war, these oil supplies were laboriously transported to the front in bulk containers. Today, these liquids flow to the front through portable pipe lines, which are complete with pumping units, storage tanks and pipe lines. Consequently, on all major fronts, roads, rails and fly-ways, while still overburdened, are carrying twice as much food, ammunition and other solid supplies.

The oil industry, therefore, besides supplying the fuel that becomes the sinews of mechanized vehicles, also has furnished the "know-how" that has contributed much to the whipping of the army's transportation problem. Common oil field methods and equipment — pipe lines, pipe-line pumps and bolted steel tanks—with variations to meet army requirements have made this possible.

Portable pipe lines, developed and standardized for military use are the pride and problem of the Engineer Petroleum Distribution Companies, all of which are trained at Camp Claiborne, Louisiana ("Little-Inch Oil Lines of the Battle Zone," THE OIL WEEKLY, Sept. 25, 1943). Commanded by a captain, an Engineer Petroleum Distribution Company is organized to handle the construction and maintenance of 120 miles of line, including pump stations and tankage installations. The seven officers and 223 enlisted specialists must be developed into a well coordinated team, for as often as not, any given 120-mile stretch of territory leading toward a battle zone will include mountains, rivers, highways or swamps, and sometimes all of them.

As evidence of the important contribution made by the adoption of the pipe line, it is estimated that one tenth the manpower formerly required to transport fuel by truck can do the job with a pipe line. Formerly it would have taken about 230 trucks to transport 170,000 gallons of fuel a day over a distance of 50 miles. Now a 4-inch pipe line can do the same job in the same amount of time — releasing those 230 trucks for other work. Too, handling fuel by pipe line is safer because it eliminates vulnerable truck loads of high explosive gas. It is almost impossible to bomb a pipe line — except accidentally.

An integral part of the pipe line is the bolted-steel tank which has been successfully adapted from commercial uses to meet the rigid requirements of war. As used for military purposes, bolted-steel tanks come in several sizes ranging from 100 barrel to 10,000 barrel capacities. They have two major functions. First, they provide storage space and secondly they serve in a flow or operating capacity. Their particular function is determined by the type of line with which they are installed; for two types of pipe lines are used by the army: a low-pressure or "miltary" pipe line, and a high-pressure pipe line.

In the more active theaters where lines of communication are shorter and surging battle lines may require greater

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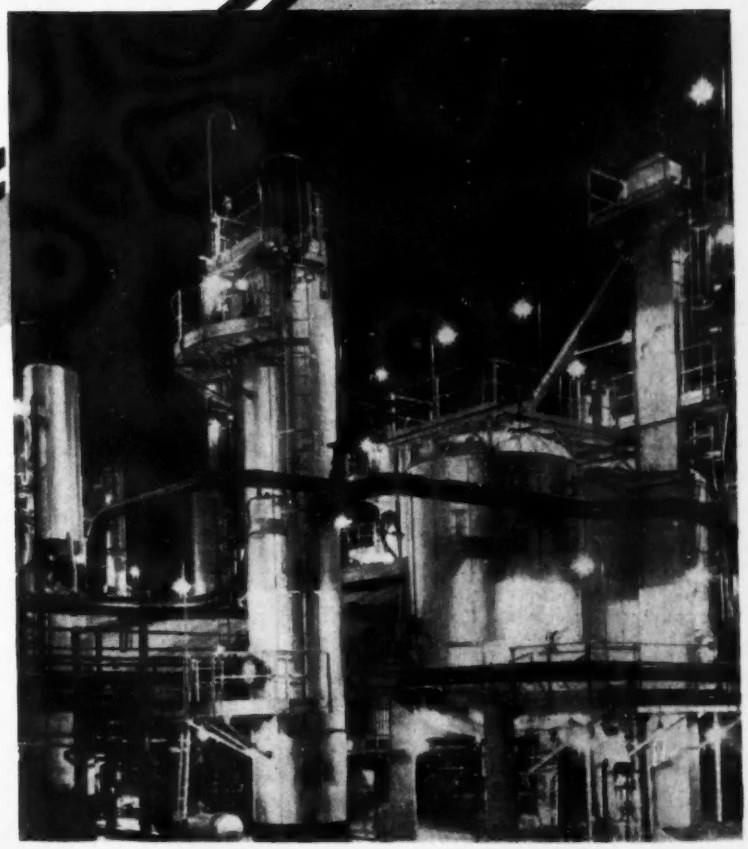

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Members of the Engineer Petroleum Distributing Company of the U. S. Army coupling a portable oil pipe line together in Italy. It is possible under normal operations to couple 8 miles of pipe per day.

mobility, the miiltary pipe line is standard equipment. It consists of thin wall pipe, either 4 or 6 inches in diameter, built to take an operating pressure of 250 pounds, and of pump stations. With the pump stations, placed at irregular and strategic intervals, are bolted tanks referred to as line storage tanks. Distances between these storage tanks may vary from 8 to 250 miles, but their purpose remains the same—storage. If enemy action or mechanical failure causes a break at any point in the pipe line, the storage tanks downstream are drawn upon to maintain delivery of fuel while the broken section is closed off and repaired or bypassed.

In theaters where communication lines are drawn out to great distances, the high pressure system is normally used. This calls for heavy pipe which can take a normal operating pressure of 700 pounds or more. Pumping stations which, on the military system were placed on an average of 10 miles apart, are now spaced approximately 30 miles. And at every pumping station is an installation of bolted tanks — one tank for each type of fuel the line may be expected to handle. Under the high pressure system the line storage tanks have the double function of providing storage space and of acting as flow tanks. With each function the ultimate purpose is the same — to maintain a supply of fuel sufficient to insure an even flow at the dispensing points.

The portable pipe line may extend only a few miles in its course or it may stretch hundreds of miles, but its organization remains fundamentally the same. Its source of supply, a beachhead, a port or even a refinery, is referred to as the near terminal. From this source it extends as a thin line on the earth's surface, dotted here and there by pumping stations and steel tanks to the far terminals or dispensing points located within a few miles of the fighting front.

Between the near and far terminals the bolted-steel tanks, like other component parts of the pipe line, are placed above ground, either directly on the surface or in open pits where they may be more easily camouflaged and protected from enemy action. When possible, tanks are dug in on hillsides where they have the additional advantage of a positive gravity feed to the pump or dispensing stations located below. Since there is little or no necessity for placing fuel storage underground, the tanks are not built to withstand the pressure of packed earth on the sides or top. Experience has justified the practice of placing everything above ground. Installation, operation and repair are speeded up. Only in the forward areas must care be taken to avoid effective enemy action. This is achieved most readily through camouflage. On any part of the line, the likelihood of enemy planes taking time to locate and cause extensive damage to such a target is decreasing in direct proportion to the increase in Allied air superiority.

Existing Facilities Sought

Wherever there is need, a dispensing point may be established, either by the insertion of a branch line or by the use of the terminal point of the main line itself. At either location, bolted-steel tanks called terminal storage tanks are installed to serve as reservoirs between the branch line and dispensing hoses. Dispensing points may feed motor vehicles, tanks, tractors, jeeps or aircraft. Most commonly the distribution is achieved through the use of dozens or hundreds of 5 gallon "blitz" cans, which can be loaded high in trucks yet easily handled by individual operators.

Preparatory to the invasion of a given area all available information on bulk fuel facilities in that area is obtained, sometimes from the American petroleum industry and sometimes from collaborating foreign agencies. It is swifter and easier to take advantage of existing facilities — when the enemy leaves any — than to attempt to transport and install all new equipment.

When American engineers moved into the port of Naples for example, early consideration was given to the storage of bulk fuels. Allied air fleets and artillery had taken their toll of plants and tanks. The Germans had destroyed others, but not with their usual thoroughness, for many were left —empty but intact. Immediately these tanks were put to use for storage purposes by Engineer Petroleum Distribution Companies, as supply bases for pipe lines. To them were added sufficient tank farms made of the imported bolted tanks to produce an adequate port terminal, from which sufficient pipe lines were soon running north behind the advancing Allied forces. The story is told that the Italian tank farms were so well dispersed and hidden that American Petroleum Engineers are still uncovering useful tanks.

In Northern Tunisia sufficient existing tankage — approximately 800,000 barrels — was uncovered and repaired

Ability to reload from this Italian gasoline dump, which is supplied by portable pipe line, has made it possible for front line tank trucks to quickly obtain their gasoline only a few miles from the fighting. This saves many miles of driving daily.

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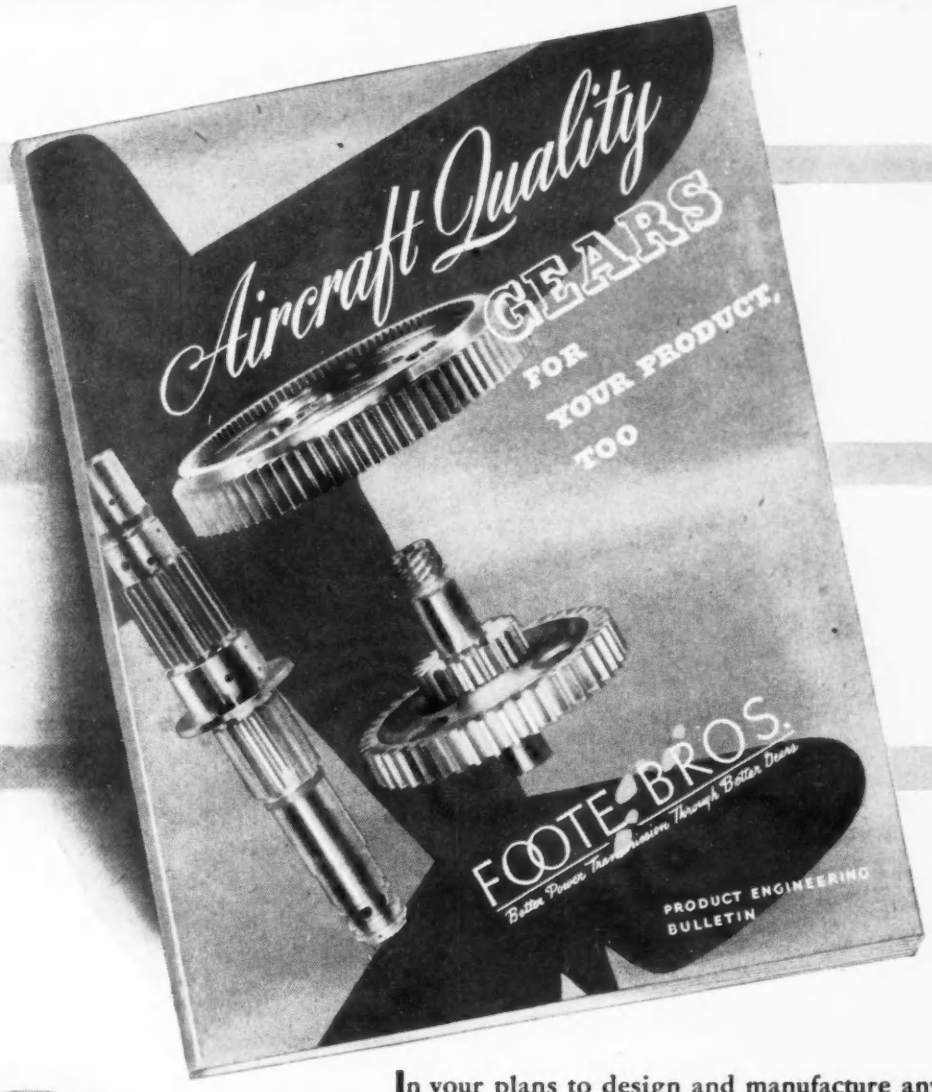

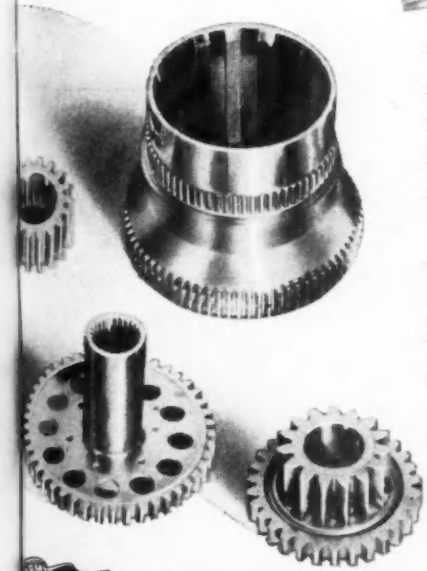

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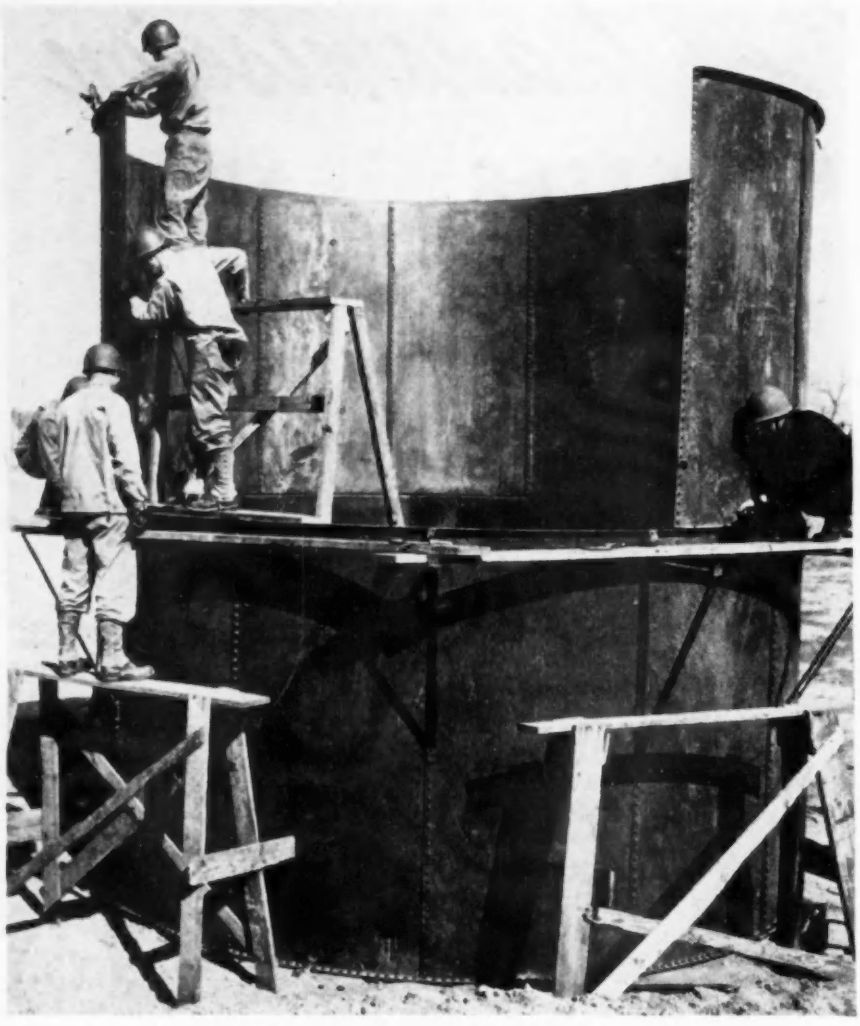


Soldiers being trained in erection of bolted-steel tanks at Camp Claiborne, Louisiana

to meet all storage needs in the vicinity of ports without the introduction of American tanks. But more than five tons of welding rod were consumed in these repairs. In another area over a thirty day period storage tanks of 561,000 barrel capacity were repaired or constructed. Of these, 27,450 barrels were new tankage.

Engineers Top Hurdles

In many battle zones, however, American engineers are not so fortunate in finding some or all of their tankage ready to go. On those occasions they must start from scratch, and often under the worst of handicaps.

In Sicily, soon after the initial invasion a crew of Engineers landed to construct a pipe line. Due to stiff enemy resistance equipment could not be landed at any one spot on the beach. It was scattered along a 5-mile stretch. A lot of important gadgets were lost. But that didn't faze the engineers. In six days they built 8 miles of line, erected two storage tanks to supply an air field and had over 200,000 gallons of oil flowing daily to fuel our planes and tanks.

Bolted tanks used at port terminals and on tank farms are chiefly of the 10,000-barrel (420,000 gallon) type. In contrast to the beachhead terminals where fuel delivery is achieved primarily by the use of 55-gallon drum or 5-gallon "blitz" can, manhandled ashore, the port terminals are supplied by tankers running 8- and 10-inch hoses or submarine pipe lines directly ashore.

As the pipe lines stretch out from the near terminals toward the far terminals the tanks decrease in size. The 5000 and 1000-barrel bolted tanks serve often as line storage tanks, while the 500, 250, and 100-barrel tanks are used mainly at dispensing points for vehicles, air fields and fuel tanks for operating the pumping units. Circumstances of manpower, terrain, and volume required are all incorporated in the plans developed by the petroleum branch, office chief of engineers and have much to do with determining the size of tank used at any given point.

Assembly Units Standardized

In the early months of the war difficulty was met when relatively inexperienced crews faced the task of assembling the 10,000-barrel tanks to produce gasoline-tight containers when the complete unit required 55 different packing cases. To further complicate the problem, it was not unusual to have mixed batches of unstandardized products of as many as three different manufacturers dumped on the same beachhead. Without standard markings the mixed parts offered an excellent session for a jig saw puzzle convert, but it was of little value in the war effort. Today, under the careful guidance of the petroleum branch, office chief of engineers, markings and assembly units have been standardized, crews have been better trained, and, in most cases, supply systems guarantee the delivery of complete units to the proper locations.

The assembling of the bolted-steel tanks is an art in itself. A 10,000-barrel tank weighs 74,000 pounds, uncrated. A dozen different types of tools are provided for its erection. The bottom deck, which must be placed on firm and level soil, is usually built of thin, pie-shaped segments girdling a center disk. On other models the decks are of rectangular segments. In construction, each segment overlaps its neighbor in counter-clockwise direction and with the insertion of a synthetic rubber gasket is bolted tightly to it. In the 5000 and 10,000 barrel-tanks there are two rows of segments. The sides are built of metal plates or staves with vertical seams. In the larger tanks two and three rings or tiers of staves are added. The top deck is composed of segments with a center plate similar to that on the bottom and is assembled with the aid of a gin pole type of center support which adds strength and becomes part of the tank structure.

Lines Are Versatile

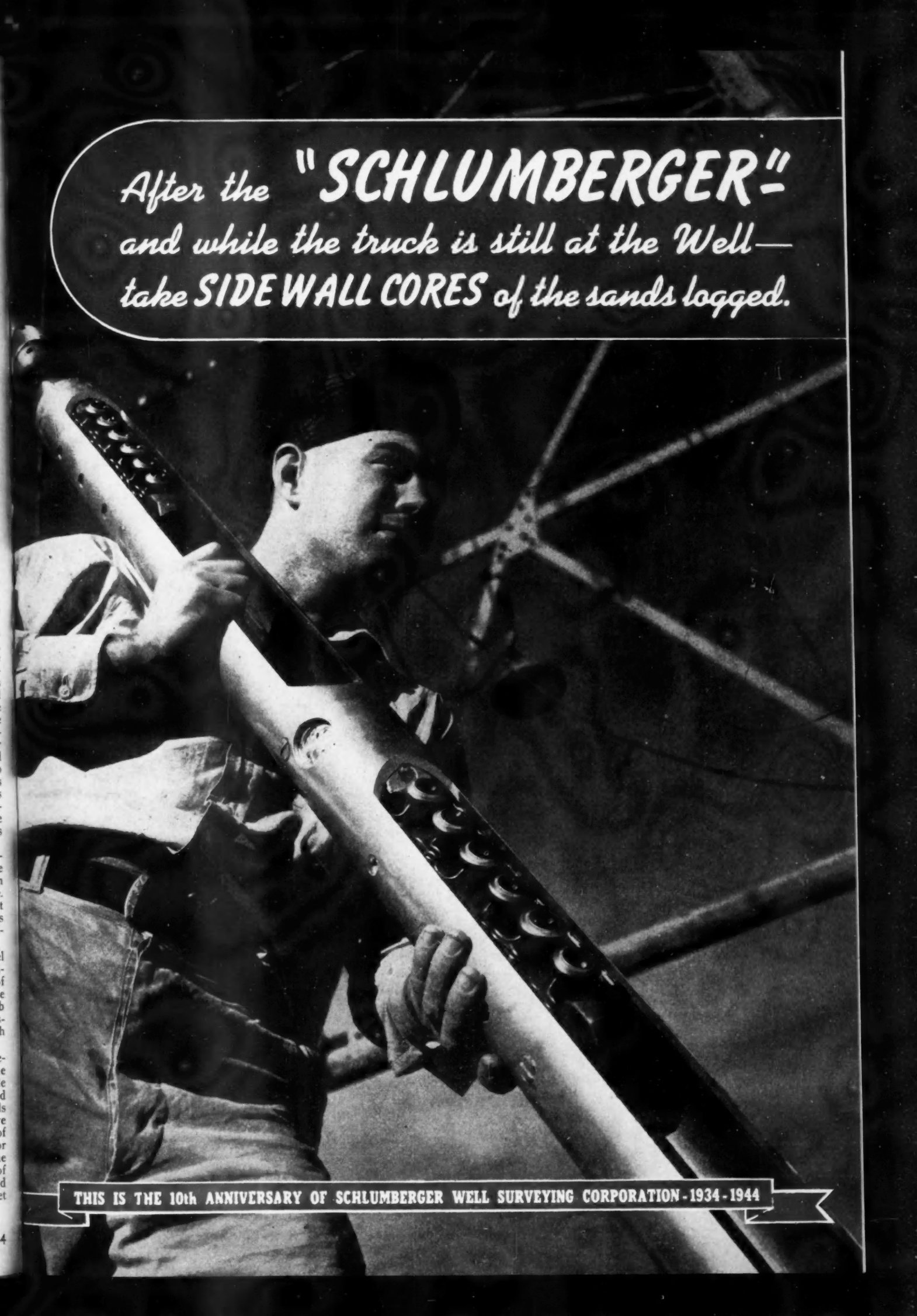
For all their size, a 10,000-barrel tank consisting of three rings, 24 feet high and 55 feet in diameter can be erected by a trained crew of 25 men in a little more than three days while the 100-barrel tank, consisting of one ring 8 feet in height and 9 feet in diameter, can be completed by six men in as little as four hours.

The versatility of the pipe line is sometimes amazing. It is much like a telephone system over which one speaks with variation in tone and meaning. So with the pipe line, for its liquid cargo varies with the expressed needs of the dispensing points. If the cry is for high-octane gasoline for the air forces, then storage tanks containing other fuels are blocked off by valves and the aviation fuel is pumped through the line. If for diesel fuel to power tractors or motor fuel for trucks and tanks, the storage and flow tanks holding the appropriate fuel are adjusted by crews at each point and the smooth-flowing liquid is soon on its way.

Drinking water is occasionally transported by pipe line. Short, separate lines are established and maintained in certain areas for this distinct purpose. Obviously drinking water is never put through fuel lines, though water is otfen used as a plug between two different fuels using the same line.

The manufacture of bolted-steel tanks has become a high priority business to meet the growing demands of a fuel-hungry war machine. The same manufacturers who were doing the job in peace time for the petroleum industry are now supplying the Army with essentially the same equipment.

Storage and 'flow" are essential elements in the vital function of the Petroleum Distribution units' portable pipe line, to keep our fighting men and machines supplied with the bulk fuels for warfare. Other types of tanks have been tried with varying degrees of success, but the standard tank for above-ground use continues to be the bolted-steel tank. The dependability of these tanks is another factor toward guaranteeing that our men will "get there fustest with the mostest."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Electrical Well Logging

PART 3
The Single-Point Resistance Method

By
HUBERT GUYOD
Development Engineer,
Halliburton Oil Well
Cementing Company,
Duncan, Oklahoma

REGARDING the mathematical expression of the resistance of a wire

$$R = \rho \frac{L}{A} \qquad (3\text{-}1)$$

discussion was limited to the case of conductors of uniform cross section. If the wire is not uniform, or more generally, if a conductor having any shape is dealt with, it is necessary to bring a few changes in the equation.

In order to investigate what happens in a few cases of simple geometry, there has been drawn in (a) of Figure 3-1, the wire used in a previous experiment. The application of a voltage V between its ends B and B′ caused a current to flow from B to B′ and equation (3-1) gave the value of the resistance offered to this flow of current.

Instead of wire (a), use a cylinder (b) of the same length, but of large cross section. Equation (3-1) will still be valid, provided the correct dimensions are used when computing R from the equation. The result will still give the resistance offered to a current flowing in the cylinder from B to B′.

Go one step further, and instead of a cylinder (b), use a thin disk (c) of uniform thickness L. This disk is nothing more than a cylinder of extremely short length L and large cross section A. Equation (3-1) can still be applied because no assumption whatsoever was made on the magnitude of L and A, when this equation was established. The computation of R from this formula still gives the resistance between face B and face B′.

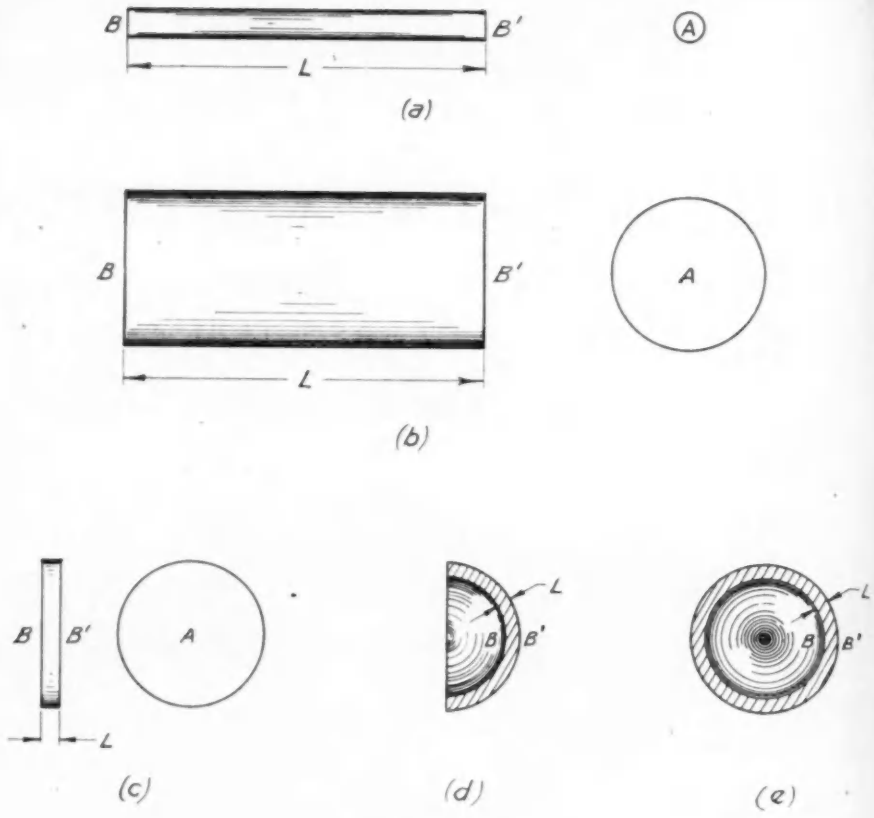

FIGURE 3-1
Progressive changes of a conductor from a uniform wire to a thin shell

If the disk (c) is warped into the shape of a thin shell of thickness L and surface area A—like a half-spherical shell, for instance, as shown in (d) of Figure 3-1—and if equation (3-1), is applied, there will be obtained the resistance the shell offers to a flow of current when the potential difference is applied between its inner surface B and its outer surface B′.

Thin Shell

Finally, if there is a thin closed spherical shell of thickness L and surface area A, there can be calculated the electric resistance from its inner surface B to its outer surface B′ by means of equation (3-1). This, of course, applies only if the shell is so thin that the area of its inner surface is approximately equal to that of its outer surface, so that there will be no ambiguity in the

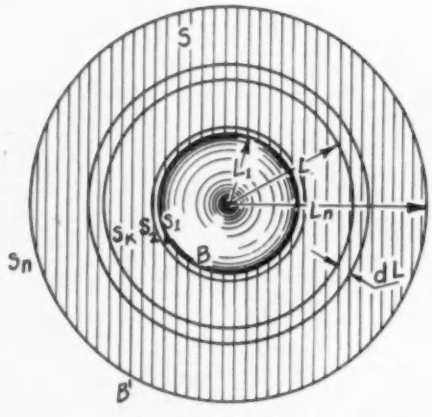

FIGURE 3-2
Computation of the resistance of a thick spherical shell.

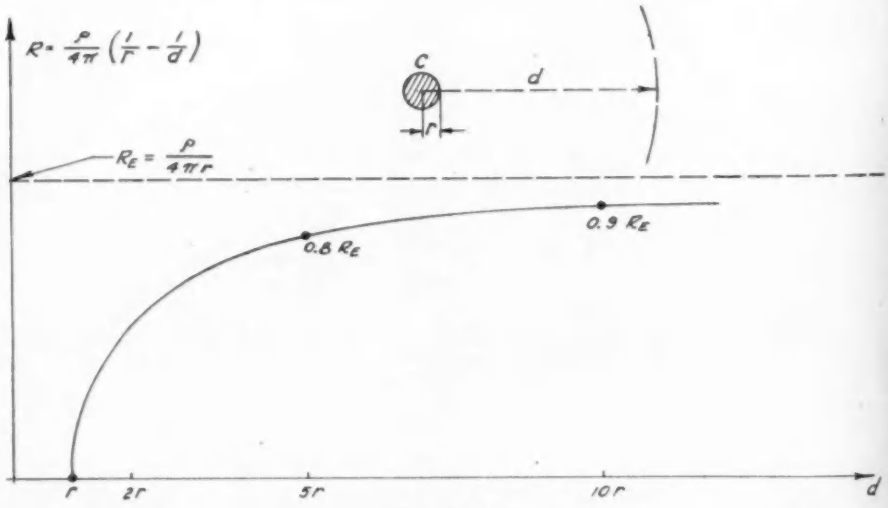

FIGURE 3-3
Graph of the resistance offered by the ground to a current flowing from an electrode to a region situated at a variable distance from said electrode (Single-point resistance method).

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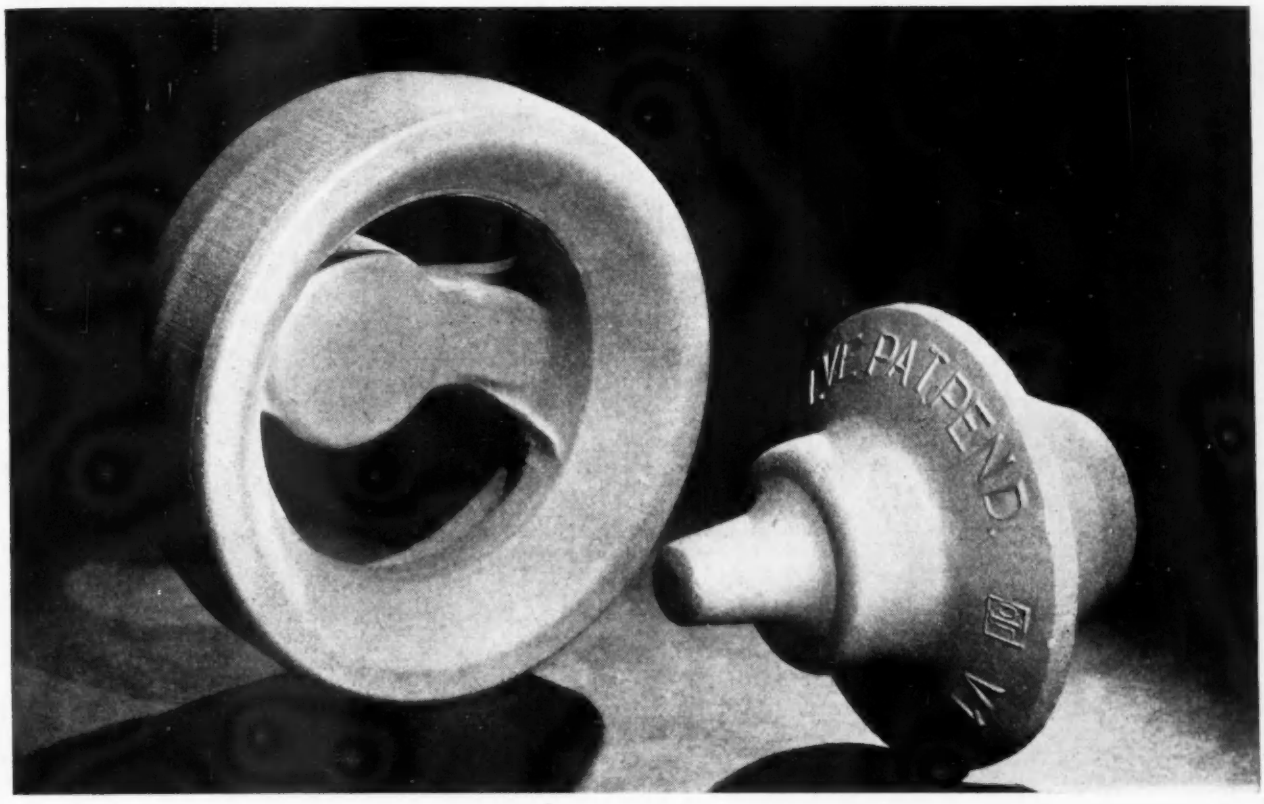

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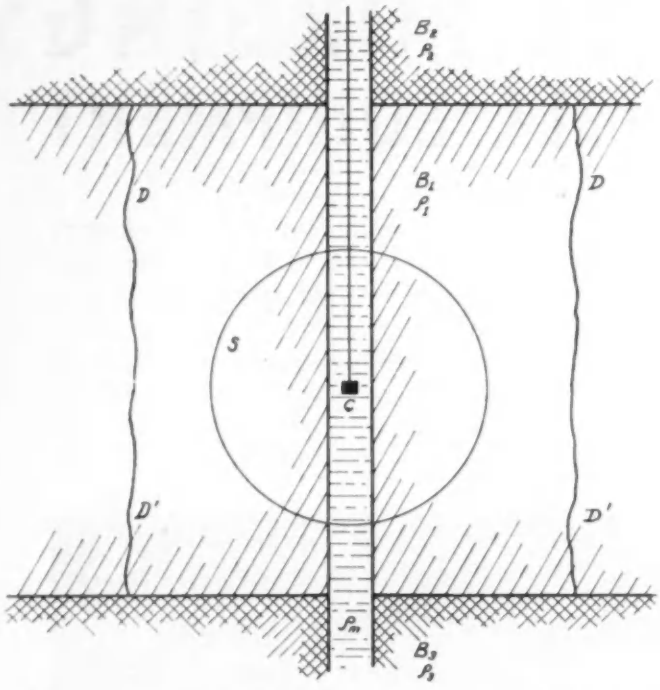

FIGURE 3-4
Typical example of non-homogeneous condition.

selection of the value to be given A in the computing of R.

Thus, by gradual physical changes, there now has been obtained a conductor whose shape is entirely different from that of the original wire; nevertheless equation (3-1) is still valid.

Now if there is a homogeneous shell S of appreciable thickness—see Figure 3-2—unfortunately, no longer may the formula (3-1) as is be applied because the value of the surface area A is ambiguous. In this case, the calculation of the resistance can be made as follows:

1. Divide S into a considerable number of concentric thin shells S_1, S_2 —— S_k——S_n.

2. Calculate the resistance of each individual shell by means of equation (3-1).

3. As a current flowing from the inner surface B to the outer surface B′ traverses every shell one after the other, we have n conductors in series. The total resistance of the conductor then equals the sum of the resistance of each shell.

Assume that the inside and outside radii of the thick shell S are L_1 and L_n respectively, and that one of the intermediate thin shells S_k has a radius L and a thickness dL. The surface of this shell is therefore $4\pi L^2$, and its resistance R_k can be computed from equation (3-1) after replacing dL and $4\pi L^2$ for L and A, respectively. This gives

$$R_k = \rho \frac{dL}{4\pi L^2}$$

The resistance of the thick shell S from B to B′ is therefore

$$R = \sum_{k=1}^{\infty} \rho \frac{dL}{4\pi L^2}$$

Mathematically this is expressed better by

$$R = \int_{L_1}^{L_n} \rho \frac{dL}{4\pi L^2} \qquad (3\text{-}2)$$

If the shell S is made of isotropic and homogeneous material, the above integral can be solved, and in this case R is given by the following expression

$$R = \frac{\rho}{4\pi}\left(\frac{1}{L_1} - \frac{1}{L_n}\right) \qquad (3\text{-}3)$$

which is the resistance offered to an electric current flowing from the inner surface to the outer surface of the shell —or from the outer surface to the inner surface. R is given in ohms when L_1 and L_n are expressed in meters, and ρ in ohm-meters.

Resistance of an Electrode

An important application of equation (3-3) is the calculation of the resistance R which the ground offers to a current flowing from a spherical electrode C to a remote region Z.

Designate by r the radius of the electrode, and by d the distance from the center of the electrode to Z. Substituting r for L_1 and d for L_2 in equation (3-3) there results

$$R = \frac{\rho}{4\pi}\left(\frac{1}{r} - \frac{1}{d}\right)$$

If R is plotted as a function of d, there results the graph shown on Figure (3-3). It can be seen that R increases with d at an extremely rapid rate for small values of d—less than 5r for example. On the other hand, for values of d larger than 5r, R increases very slowly to the asympototic value

$$R_E = \frac{\rho}{4\pi r} \qquad (3\text{-}4)$$

This particular value R_E is called the "resistance of the electrode." When d is more than 10 times the radius of the electrode, the resistance R equals R_E—with an error less than 10 percent—regardless of the distance from C.

Equation (3-4) shows that the resistance of an electrode is controlled by two factors

1. The radius of the electrodes
2. The nature of the material in which it is located.

The graph of Figure 3-3 shows that only the material which is close to the electrode control its resistance. The influence of the ground beyond a certain distance from the electrode is negligible for most practical purposes. In general, only the material comprised within an imaginary sphere whose radius is ten times the radius of the electrode, i.e., five times its diameter, is therefore considered.

If the electrode is not spherical, its resistance has no longer the value given in equation (3-4). In this case, it can be expressed by

$$R_E = K\rho$$

where K is a constant depending upon

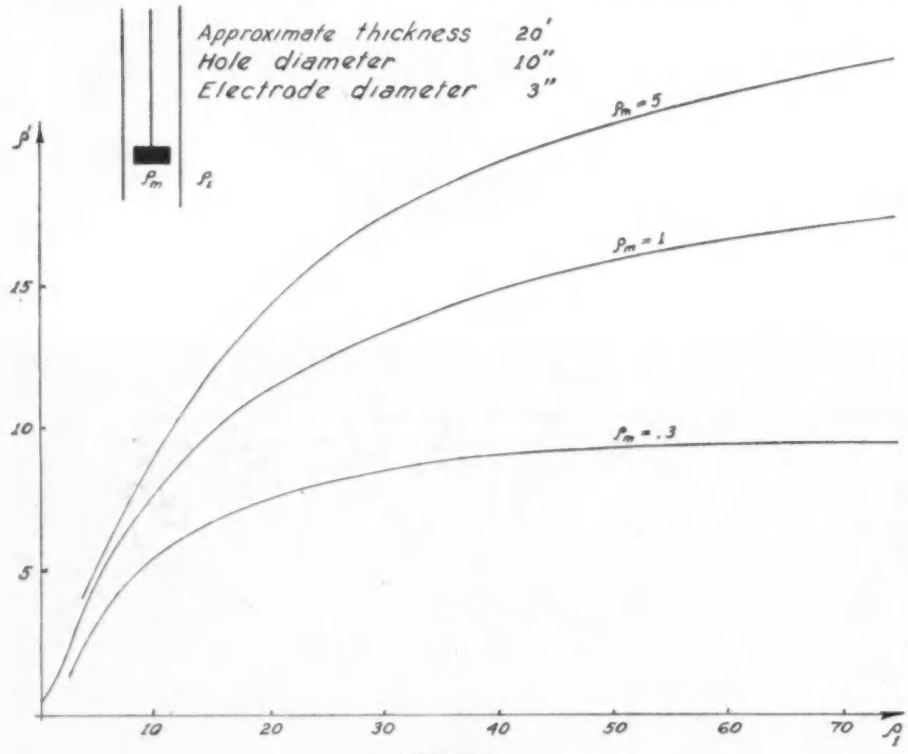

FIGURE 3-5
Schematic representation of apparent resistivity vs. true resistivity for various mud salinities (Single-point method.)

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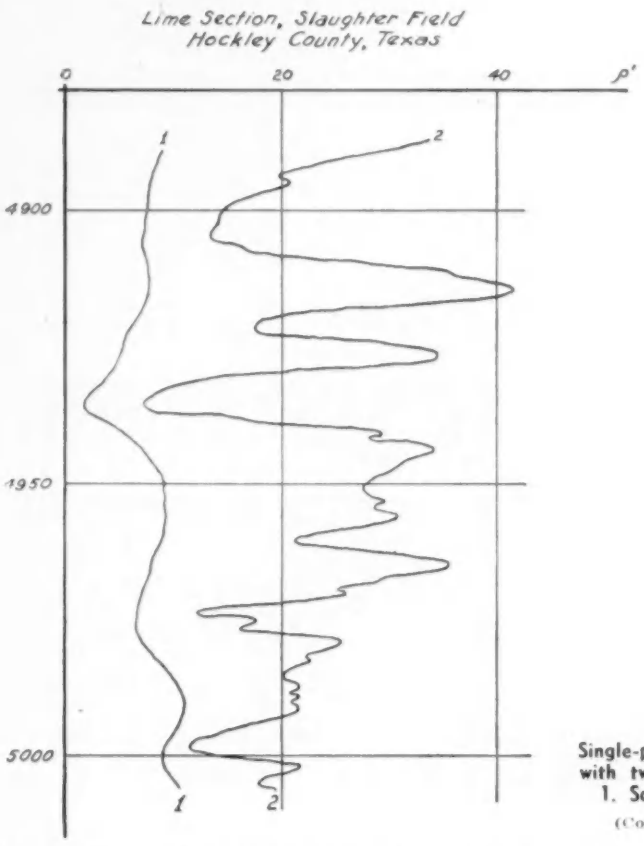

FIGURE 3-6
Single-point resistance log made with two different drilling fluids. 1. Salty mud. 2. Fresh mud.
(Courtesy The Texas Company)

the shape and dimensions of the electrode. The computation of K is possible only in a very limited number of simple cases. For instance, for a round thin plate of diameter D, K equals $\frac{1}{4D}$. If the geometry of the electrode is not simple, its constant K cannot be calculated and must be determined experimentally.

To have an idea of the magnitude of the resistance of an electrode, compute it for a spherical electrode whose diameter is 6.3 inches, i.e., whose radius is 0.0795 m. Substituting 0.0795 for r in equation (3-4) gives

$$R_E = \rho$$

that is, the resistance—in ohms—of an electrode of 6.3 inches diameter is expressed by the same number as the specific resistance—in ohm-meters—of the medium in which it is placed.

Single-Point Resistance

Rearranging equation (3-4), for ρ gives

$$\rho = 4\pi R_E r$$

which suggests immediately the following simple method of measuring the specific resistance of a homogeneous medium; a spherical electrode C of radius r is placed in the formation under investigation, and its resistance is determined by application of Ohm's law, i.e., by measuring the intensity I of a current flowing from the electrode into the formation, measuring the voltage drop V between the electrode and a remote point, and calculating the ratio

$$\frac{V}{I} = R_E$$

The specific resistance is then computed from the relation

$$\rho = 4\pi R_E r = 4\pi r \frac{V}{I} \qquad (3\text{-}5)$$

This method for measuring the specific resistance of the ground is called "Single-point Resistance Method."

Apparent Resistivity. Equation (3-5) has been established with the assumption that the ground is homogeneous and that the electrode C is spherical. If the electrode has a different shape, the method can still be used provided proper allowance is made for the physical dimensions of the electrode, as shown before.

If the ground is not homogeneous, it is no longer possible to speak of a given specific resistance when applying formula (3-5). The expression $4\pi r \frac{V}{I}$ has, however, a definite numerical value ρ' which is related to the specific resistance of all the materials surrounding the electrode, the materials nearest to the electrode contributing however more than those more remote. The numerical value of ρ' is therefore a weighted average of the individual resistivity of these materials, and it may not be regarded as representative of any specific resistance. This number ρ' is called "apparent resistivity" of the formations immediately surrounding the electrode. ρ' has an importance physical significance; it is the specific resistance of an imaginary homogeneous formation in which the electrode C would have a resistance

$$R' = \frac{\rho'}{4\pi r}$$

In view of this, ρ' has the dimensions of a specific resistance, and it is also usually expressed in ohm-meters.

Limitations of Single-Point Resistance Method

If a certain volume of a foreign material M′ is imbedded in a homogeneous medium M of resistivity ρ in which there is an electrode C, the effect of M′ on the calculated expression

$$\rho' = 4\pi R' r$$

is as follows:

1. If M′ is more resistant than M, R′ is greater than $R = \frac{\rho}{4\pi r}$ and the apparent resistivity ρ' will be greater than ρ. If M′ is more conductive than M, the apparent resistivity ρ' will be less than ρ.

2. The closer M′ is to C, the more it modifies the value of R′ and therefore of ρ'. If M′ is far from C—at a distance of ten times the diameter of C, or greater—its influence on R′ is usually negligible, and ρ' will be approximately equal to ρ. (The foregoing discussion shows that, technically, a single-point resistance curve is a measurement of the resistivity of the drilling fluid, more or less affected by the presence of the formations. Nevertheless, in the discussions there shall be taken the conven-

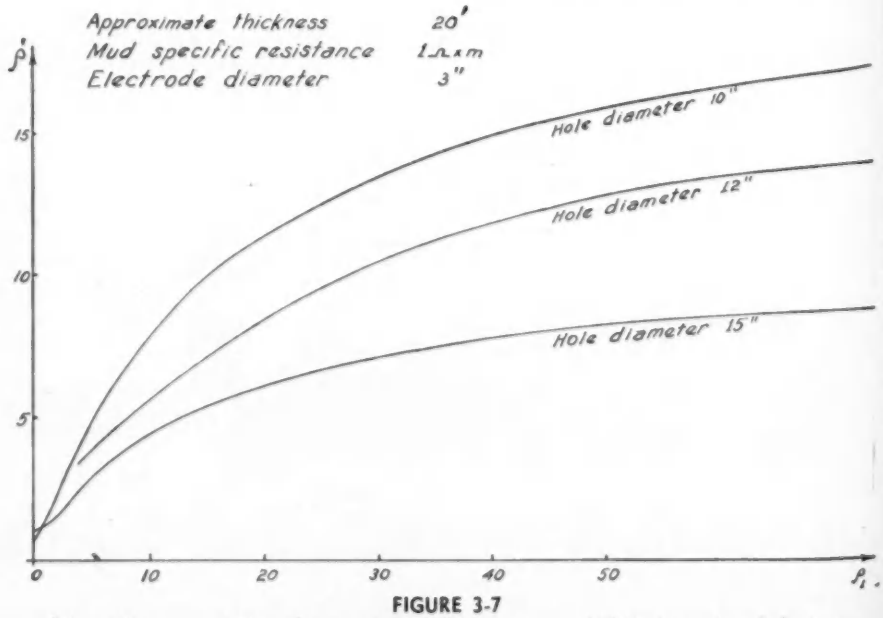

FIGURE 3-7
Schematic representation of apparent resistivity vs. true resistivity for various hole sizes (single-point method).

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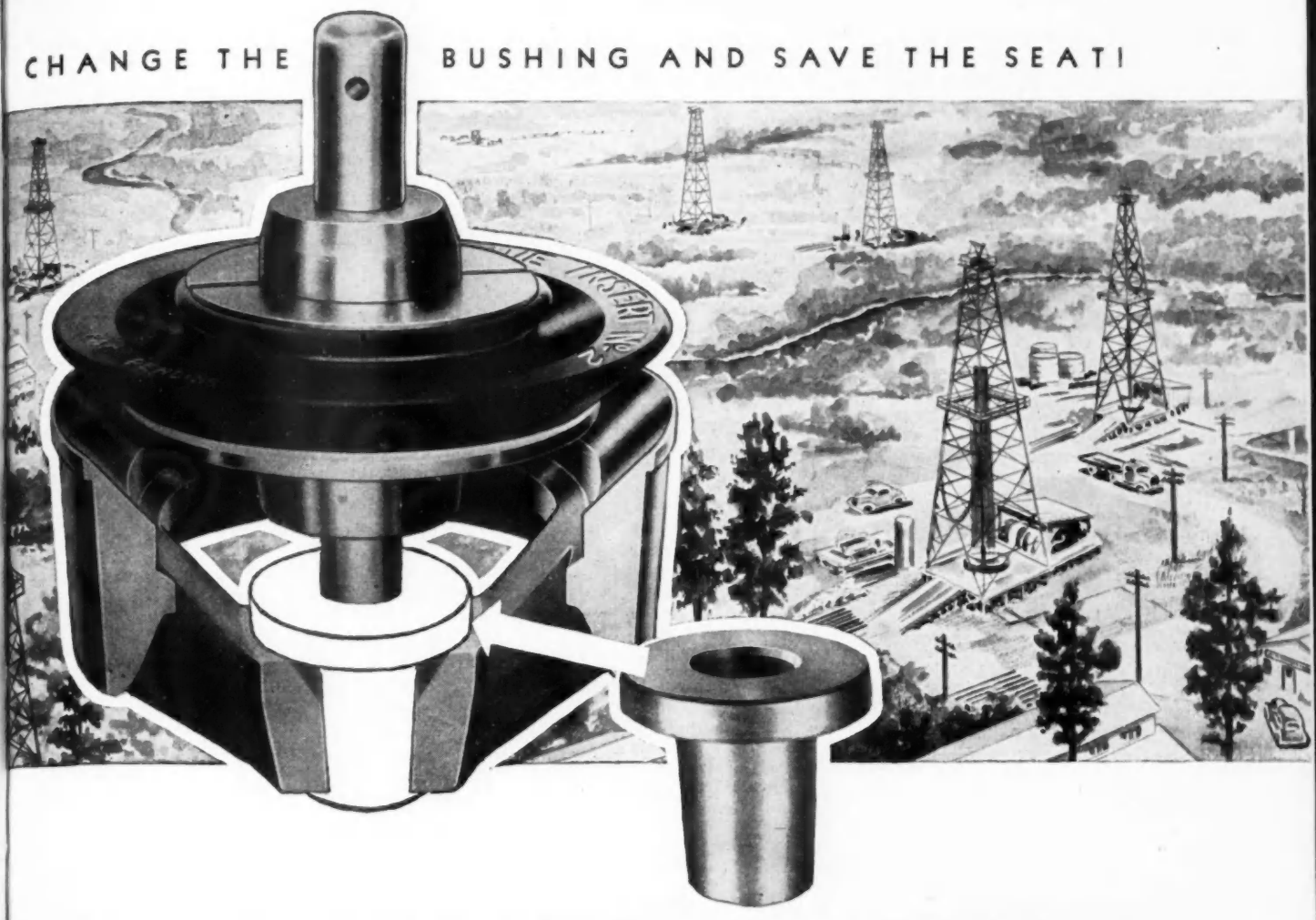

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tional stand that formations are being logged and that it is the drilling fluid which affects the measurements. The same remark can be made for the multiple-electrode methods.)

If the single-point method is used to log a bore hole, there exists the condition illustrated on Figure 3-4. The electrode C—for instance, a ring of 3-inch diameter and 2-inch height centered on the well axis—is opposite a bed B_1 of specific resistance ρ_1. The hole is filled with mud of specific resistance ρ_m. If ρ_m is not too different from ρ_1, we have nearly electrical homogeneity in the vicinity of the electrode, and the apparent resistivity ρ' is close to the value ρ_1.

Effect of Mud Conductivity. If the mud is much more conductive than the formation, i.e., if ρ_m is much less than ρ_1, the numerical value of ρ' will be comprised between ρ_1 and ρ_m. The smaller ρ_m is, the smaller will be ρ'. There is not simple mathematical relation, however, between ρ' and ρ_1 for a given value of ρ_m. The relationship between these quantities is therefore best determined experimentally. Figure 3-5 shows graphically the experimental values of ρ' in terms of ρ_1 for 3 different mud resistivities. (This chart and those following give the maximum value read on the bed. These charts have been established on scale models for a few typical cases and numerical values have been largely interpolated. The results should therefore be considered to be qualitatively correct rather than quantitatively.) It can be seen from this figure that the response of the single-point resistance curve is considerably influenced by the conductivity of the mud. For instance, in the case of a bed of a specific resistance of 10 ohm-m the apparent resistivity will drop from 9 to 5.5 when the mud resistivity varies from 5 to .3.

If the bed B to be logged is much more resistant than the drilling fluid, only a small amount of current flows in the formations, and most of it is concentrated in the bore hole and in the conductive formations surrounding B. Under such conditions, thin resistant beds do not appreciably affect the flow of current, and it will often be difficult to find them on the single point resistance curve. In the extreme case where the measurement is conducted in a hole containing salt water, the log will not only give low resistance values, but it will fail to reveal many details of the section. This is illustrated on Figure 3-6 which represents two single-point resistance curves obtained in the lime section of a West Texas well. Curve 2 was obtained with the hole filled with relatively fresh water, whereas curve 1 was made in salt water. It can be seen that many small lithological changes picked up by curve 2 cannot be seen on curve 1.

Effect of Hole Size. Curves of Figure 3-5 have been established in the case of a 10-inch hole diameter. If the size of the hole increases, the flattening influence of the mud will increase accordingly. Again in this case the relation between ρ' and ρ_1 in terms of the hole size is best established experimentally. Figure 3-7 shows three curves obtained in this manner for hole diameters of 10, 12 and 15 inches respectively, the mud resistivity being constant and equal to 1 ohm-meter.

A typical example of the effect of the hole size on the apparent resistivity is illustrated in Figure 3-8, which is a composite log obtained in West Texas. The curve to the left is a single-point resistance log, whereas the one to the right is a caliper log of the same section. The drilling mud was extremely salty, and its resistivity was 0.04 ohm-m. The section logged consists essentially of salt and anhydrite, whose specific resistances are subtantially equal and almost infinite. (Dry rock salt has an extremely large resistivity, whereas salt water has a very low one.) The caliper log reveals that the hole in the anhydrite beds is about bit size, whereas, it is considerably enlarged in the salt sections. If the size of the hole were approximately constant and equal to the size of the bit, the log would exhibit a rather uniform apparent resistivity. Due to the enlarged diameter in the salt the apparent resistivity is considerably decreased there, and the log reflects changes in the hole size rather than actual changes in true resistivity.

The detrimental influence of the drilling fluid can be reduced by mounting the electrode C near the middle part of an insulating mandrel several feet long whose diameter is close to that of the bore. This procedure improves the log appreciably, especially in the case of extreme mud salinity. The improvement, however, will never be such that a satisfactory linear response can be obtained.

Effect of other Miscellaneous Factors. Another factor upon which the apparent resistivity is dependent is the size and shape of the electrode C. In practice, however, this factor is held constant and all that is necessary is to establish data for the type of electrode used.

If the measurements are made in beds of the same specific resistance, but of different thickness, the experimental value ρ' will be different for each bed. The thicker the bed, the larger the apparent resistivity; however, the influence of the thickness is usually negligible unless the specific resistance of the beds is considerably greater than that of the drilling fluid. In this extreme case, ρ' increases almost in direct proportion with the thickness. These results are summarized schematically on Figure 3-9.

There are other minor factors influencing the single-point resistance curve, in particular, the specific resistance of the media B_2 and B_3 in which formation B_1 is imbedded—see Figure 3-4—the centering of the electrode C, the size of the body on which electrode C is mounted, etc. These factors can be neglected, however because the uncertainties they introduce are usually small compared to those brought by the other factors.

Effect of Mud Invasion. There is shown on Figure 3-4 an imaginary sphere S centered at C and containing the material to which the measurement of the resistance of electrode C is related. With a three-inch electrode, the radius of sphere S is of the order of one foot. If formation B_1 is permeable, the drilling mud will have displaced most of the original fluid up to a depth of several feet around the bore hole, as shown by the lines DD'. The sphere will then contain only contaminated portions of the formation, and the apparent resistivity will not be appreciably related

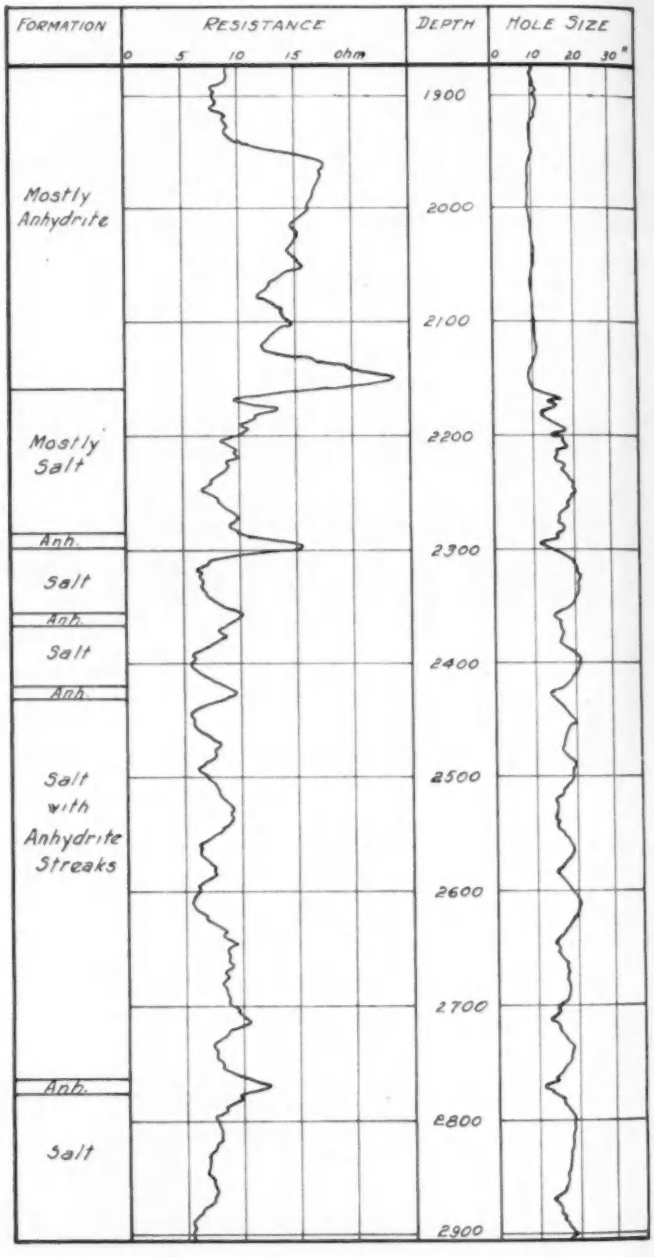

FIGURE 3-8
Single-point resistance log made in salty mud ($\rho_m = 0.04$) and showing influence of hole size. (Permian Basin.)

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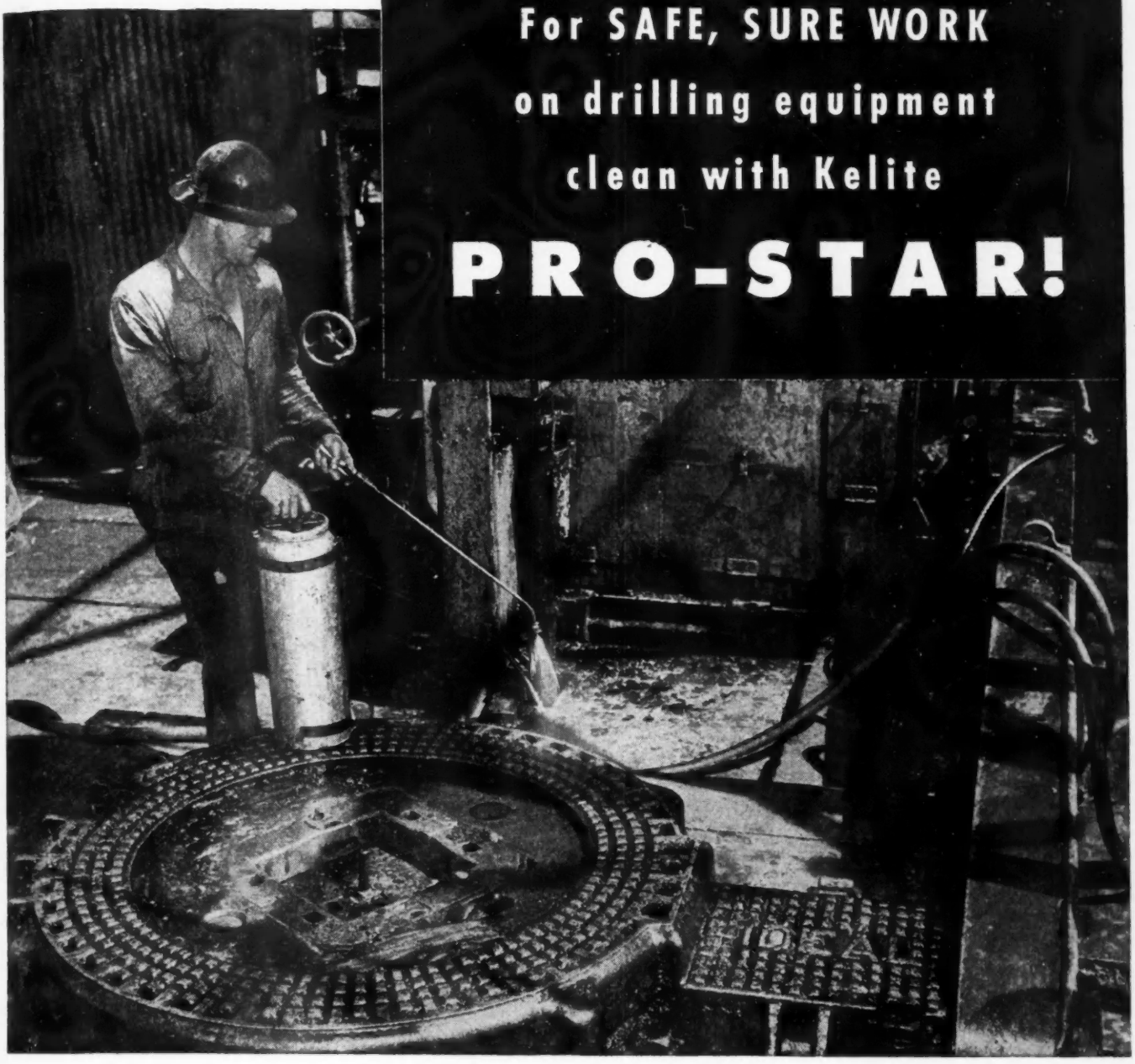

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SCIENTIFIC CLEANING THROUGH pH CONTROL

KELITE pH Control

Mfg. Plants in Los Angeles, Chicago, Perth Amboy, Houston
Branches in all Principal Cities.

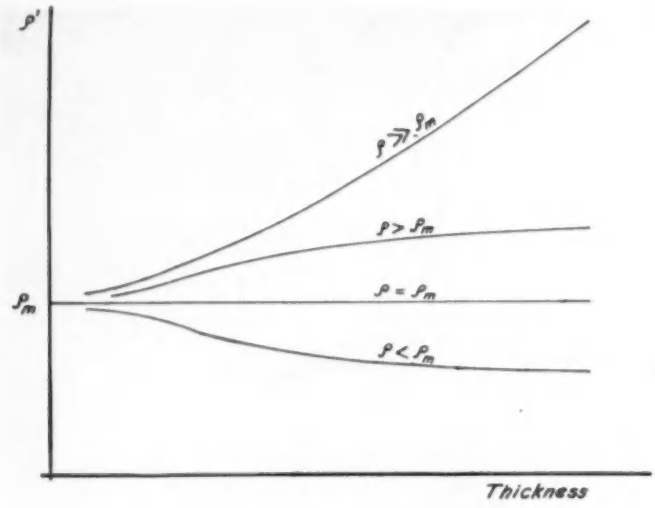


FIGURE 3-9

Schematic representation of changes in apparent resistivity in terms of bed thickness for various mud salinities. (Single - point method.)

to the original fluid. There is no method by which this condition could be remedied. Because of this lack of depth control, the single-point resistance method is therefore extremely ill adapted to the determination of the fluids of permeable beds.

In view of its two important shortcomings

1. non linear response,
2. lack of penetrating power,

the single-point resistance method is not used for quantitative resistivity determinations.

Advantages of the Single-Point Resistance Method

The main limitations of the single-point resistance curve are caused by the smallness of the zone related to the measurement and by the flatness or response. These features, on the other hand, confer certain advantages on this logging method, the most important of which are listed below.

Detail. Because the measurement averages the resistance of only a thin section, changes of formation are, in general, denoted with sharp definition on the log. Even very thin beds are picked up as individual deflections unless the mud is very salty. Single-point resistance logs are, therefore, extremely well adapted to the determination of the depth and vertical extent of beds.

Compressed Scale. The flatness of response of the single-point method—when no effort is made to correct it—results in a curve which seems to have been plotted on a kind of semi-logarithmic scale. The ohm scale of the low resistance sections seems to have been amplified, whereas that of high resistance formations seems to have been compressed. This yields an extremely clear and complete log which is not complicated by undesirable off-scales. Such a feature is particularly important when correlations have to be made in an area where considerable resistance changes are frequent. This is illustrated on Figure 3-10 which represents, on the left side of the chart, a single-point resistance record of one of the shallow wells of a core drill project that penetrated both the fresh water sand section and the deeper salt water sands. In the fresh water section, the whole curve is kept within the limits of the recording range without sacrificing any detail of the log in the salt water section. On the right hand side of the figure there is shown a three-electrode curve made in the same hole with a 3-foot spacing. Many off-scale deflections blurr the top section, whereas the bottom section is so flat that it can hardly be used for correlations.

Uniqueness of Response. Unless the size of the hole is more than ten times the size of the electrode, lithological changes are, in general, always reflected by apparent resistivity changes on the single-point log. Conversely, changes in the log can almost invariably be ascribed to lithological changes occuring at the level of the measuring electrode. The single-point log is the only resistance curve possessing this property. In fact, it will be seen later that the logs obtained by any multiple electrode logging system are liable to exhibit reactions which have no connection whatsoever with the formations situated opposite the pick-up electrodes.

Location of Permeable Beds. The apparent resistivity measured in a permeable bed with the single-point method is related mostly to the mud contaminated zone. On the other hand, it will be seen later that the multiple electrode measurements are usually related to the original fluid. The two types of curves will therefore exhibit diverging values which can be used as a qualitative index of permeability of most porous beds. This is illustrated at the bottom half of Figure 3-10 where all the relatively large values shown on the curve to the left of the chart—except that at 1500 feet—are salt water sands.

Use of Single-Point Resistance Logs. If permeable beds were not contaminated by the drilling fluid, the single-point method used with appropriate families of experimental curves, would be a universal resistance measuring method. In fact, this curve is characterized by:

1. Sharp definition of geologic changes.
2. Ease of correlations.
3. Uniqueness of response.
4. Possibility of computing approximately the specific resistance of many formations, when proper steps are taken.

Unfortunately, the necessity of having data related to the original fluid of permeable beds does not permit the use of the single-point curve as a universal resistivity log. This curve is therefore used almost exclusively for correlations and bed thickness determinations.

(To be continued)

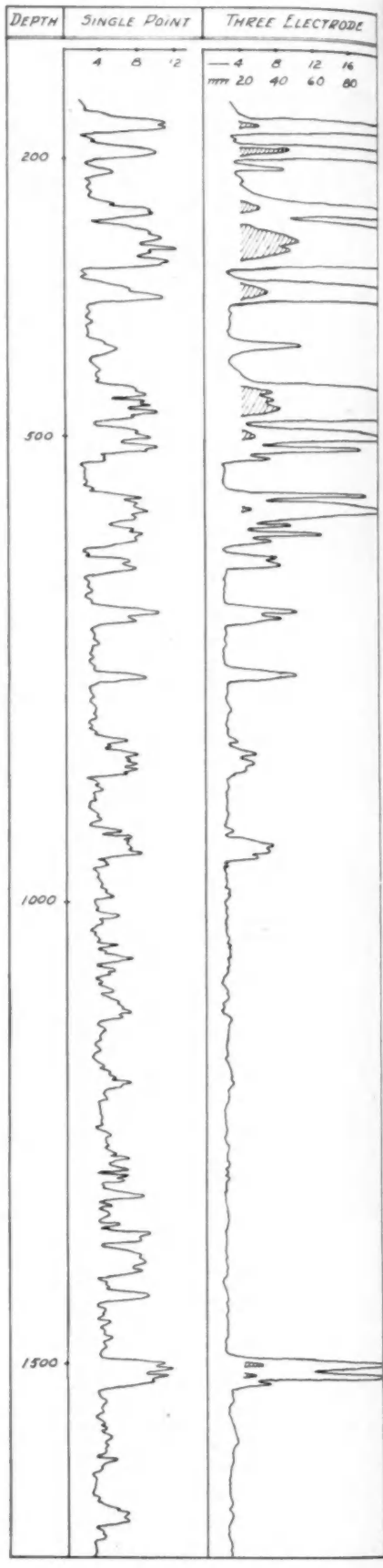


FIGURE 3-10

Log showing advantage of the single-point resistance curve over the multiple electrode curve in presenting a clear and detailed general picture.

1944 Exploration Below Goal; July Record Poor

The OIL WEEKLY's monthly presentation of salient data on new fields, new pay zones, field extensions

From data compiled by District Editors and coordinated by J. L. Logan, Associate Editor

EXPLORATORY drilling in the United States afforded relatively unfavorable results in July from the standpoints of number of wells completed and proportion of successful tests. If July's weekly rate of completions were projected to the end of the year, 1944 would show only about 4100 exploratory tests compared with the government goal of 5000. Of the July completions, only 17.4 percent were productive, against 19.2 percent for the first 7 months of this year and 19 percent for the corresponding months of last year.

While the successful tests of July were in subnormal proportion to total exploratory wells completed, they also appeared to be, in the aggregate, below par in quality. Among all the new fields and new pays discovered, there was none of presently indicated exceptional importance, such as loom from time to time. What encouragement was offered came more through substantial extensions of previously found fields.

For the first 7 months of this year, exploratory well completions totaled 2407 and averaged 78 per week. This indicated an increase of about 23 percent over the record for the like period last year, when completions totaled 1953 and averaged 63 per week. The 23 percent increase was less than the expansion meanwhile in all completions —an increase of 30 percent. (THE OIL WEEKLY, August 14, 1944, page 60.)

Successful Tests

While exploratory drilling shows the 23 percent increase over last year, the ratio of successful tests has been practically the same—19.2 percent against 19 percent last year. Thus both productive and unproductive tests show gains

■ CONTINUED ON PAGE 56
(Tables on pages 54 & 55)

Summary of Results of Exploratory Drilling

ITEM	June 1944	July 1944	JANUARY-JULY 1943	JANUARY-JULY 1944	Percent Diff.
Oil Discoveries	45	29	220	252	+ 14.5
New Fields	34	20	146	170	+ 16.4
New Pays	11	9	74	82	+ 10.8
Distillate Discoveries	7	5	15	24	+ 60.0
New Fields	3	4	12	17	+ 41.7
New Pays	4	1	3	7	+133.3
Gas Discoveries	16	10	35	64	+ 82.9
New Fields	15	7	29	54	+ 86.2
New Pays	1	3	6	10	+ 66.7
Total Discoveries	68	44	270	340	+ 25.9
***Extensions to Fields**	21	19	88	104	+ 18.2
Oil Fields	12	17	78	77	— 1.3
Distillate Fields	8	1	2	7	+250.0
Gas Fields	1	1	8	20	+150.0
***Total Prod. Tests**	89	63	358	444	+ 24.0
†**Dry Holes**	365	305	1595	1963	+ 23.1
(Weekly Average)	73	76	51	63	+ 23.5
Wildcats	361	300	1562	1916	+ 22.7
New Pays	3	2	.....	12	+
Outposts	1	3	33	35	+ 6.1
†**Total Expl'tory Tests**	454	368	1953	2407	+ 23.2
(Weekly Average)	91	92	63	78	+ 23.8
Percent Prod. (Weekly Average)	19.8	17.4	19.0	19.2	.....
Percent Dry (Weekly Average)	80.2	82.6	81.0	80.8	.....

* Data for Calendar Month.
† Dry hole completions are from weekly reports and totals represent completions for 4 weeks in July, 1944; 5 weeks in June, 1944; 31 weeks in Jan.-July, 1944, and 31 weeks in Jan.-July, 1943.

Results of Exploratory Drilling in July, 1944 and First 7 Months, 1943-1944, by States and Districts

State or District	JULY, 1944															FIRST SEVEN MONTHS, 1944															
	Productive Tests										Unproductive Tests					Productive Tests									Unproductive Tests						
	New Fields			New Pays			Extensions			Total Productive					Total Exploratory Tests	New Fields			New Pays			Extensions			Total Productive					Total Dry		Total Exploratory Tests	
	Oil	Gas	Dis.	Oil	Gas	Dis.	Oil	Gas	Dis.		Wildcats	New Pays	Outposts	Total Dry		Oil	Gas	Dis.	Oil	Gas	Dis.	Oil	Gas	Dis.	7 Mo. 1944	7 Mo. 1943	Wildcats	New Pays	Outposts	7 Mo. 1944	7 Mo. 1943	7 Mo. 1944	7 Mo. 1943
Alabama											2			2	2	1									1		7			7	1	8	1
Arizona											3			3	3												6			6		6	
Arkansas			1							1	8			8	9	1		2				4			7	10	31			31	39	38	49
California	2									2	38			38	40	10	5		4			4	1		24	10	175			175	83	199	93
Colorado																1						1			2	1	4			4	1	6	2
Florida																											1			1		1	
Georgia											1			1	1												2			2	2	2	2
Illinois	3			4			5			12	45			45	57	8			26			12			46	69	205			205	207	251	276
Indiana	1			1						2	4			4	6	5			1			2			8	6	26			26	49	34	55
Iowa																											2			2	3	2	3
Kansas	3									3	35			35	38	31	5					3			39	37	245		6	251	227	290	264
Kentucky	1						1			2	10			10	12	7	5	4				2			18	12	69			69	44	87	56
Louisiana			2	2		1	1			6	8			8	14	4	2	4	8	1	2	3		1	25	27	68		10	78	55	103	82
North											5			5	5	1	1			1	1	1		1	6	8	40		6	46	42	52	50
South			2	2		1	1			6	3			3	9	3	1	4	8		1	2			19	19	28		4	32	13	51	32
Michigan	2									2	21			21	23	7									7	16	128	1		129	104	136	120
Mississippi											15			15	15	1									1	1	44		1	45	32	46	33
Missouri																										3	1			1	11	1	14
Montana											5			5	5		1					1			2	1	13			13	6	15	7
Nebraska																											2			2	24	2	24
New Mexico		1					1			2	3			3	5	2	2		1			1			6	2	29			29	26	35	28
Ohio		1						1		2	11			11	13	1	11					1	12		25		43			43		68	
Oklahoma	2	4			1		3			10	8			8	18	16	8		2	2		8	2		38	31	114		3	117	143	155	174
Tennessee											1			1	1												4			4		4	
Texas	6	1	1	2	2		5		1	18	82	2	3	87	105	70	15	7	37	6	5	33	5	6	184	123	691	11	15	717	534	901	657
E. T. Border																							3	2	5	2	5			5	3	10	5
Rest of E. T.											9			9	9	3			5		1				9	6	74	1	1	76	47	85	53
North Texas	1									1	19			19	20	20	1		11	1		4			37	33	171	1		172	135	209	168
W. Central	1			2						3	8	1		9	12	8			5	1					14	11	59	1		60	60	74	71
West Texas							4			4	6	1	1	8	12	10	2		3			11			26	12	95	6	4	105	41	131	53
Panhandle											1			1	1												5	1		6	1	6	1
Upper Coast					2		1			3	10		1	11	14	6	2	2	2	2	2	6	1	1	24	17	71		2	73	45	97	62
Lower Coast	2		1						1	4	19		1	20	24	16	7	4	7	1	2	4	1	2	44	28	96		5	101	86	145	114
Southwest	1	1								2	7			7	9	6	3	1	4	1		8			23	13	87		3	90	88	113	101
South Central	1									1	3			3	4	1								1	2	1	28	1		29	28	31	29
West Virginia																											1			1		1	
Wyoming							1			1					1	5			3	1		2			11	9	5			5	4	16	13
Total U.S.	20	7	4	9	3	1	17	1	1	63	300	2	3	305	368	170	54	17	82	10	7	77	20	7	444	358	1,916	12	35	1963	1595	2407	1953

New Oil and Gas Fields and New Pay Horizons Discovered in the United States in July, 1944

Also Important Extensions to Established Fields

County	Field	COMPANY, WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horizon (Feet)	[1]Name, Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure: [4]Method of Discovery	Tentative Evaluation of Discovery or Extension
		ARKANSAS—New Distillate Field									
Union	Salem Church	Carter Oil Co.'s C. F. Wilson 1, c sw nw 33-16s-18w, 2 mi n Mt. Holly oil pool.	.....	7- -44	7090	6985–6998	Smackover li, Jur.	F 240 dist; 3.6 mln.	71.5	.....	First purely gas-condensate pool for Co. 2 mi n of Mt. Holly 40 gravity oil pool and apparently on separate structure.
		CALIFORNIA—New Oil Fields									
Kern	Ant Hill	Amerada's Southern Pacific 36-15, sw nw sw 15-29s-29e, 3½ mi n Edison.	5-10-44	7- 5-44	2225	2180–2225	Olcese sd, Mio.	P 70; 9 wtr.	14	Mono; geol.	Not of major importance.
Los Angeles	N. Whittier Heights	Capital Co.'s Baldwin 2-1, Lucky Baldwin Ranch, 11-2s-11w, Turnbull Canyon area.	6-11-44	7-12-44	1285	1100–1285	Baldwin sd, Mio.	P 40	21	Flt, Ant: geol.	Unusually large aggregate of sands suggests pool of substantial though not major magnitude.
		ILLINOIS—New Oil Fields									
White	Unnamed	Sohio's Union Cent Life Ins 1-A, se ne nw 10-7s-10e	6-29-44	8 -1-44	2183	2179–2183	Tar Springs sd, Miss.	P 40	.....	.....	Dry holes testing this sand bound well ¼ mi sw, 1¾ mi w, 1½ mi ne, prod. in area will likely extend n for 1½ sq. mi.
Jasper	Bogota, S.	Schuller & Witt's Lawrence 1, ne sw se 3-5n-9e	5-27-44	7- 4-44	3065	3054–3065	McClosky li, Miss.	P 57	.....	.....	Opens small new pool. McClosky tested dry ¾ mi n, ½ mi sw, 1½ mi se.
Edwards	Bennington, S.	Nash Redwine's Jones 1, se nw ne 31-1n-10e	6- 3-44	7-18-44	3253	3238–3253	McClosky li, Miss.	P 132; 67 wtr.	.....	.....	Very limited possibilities. Dry holes ¼ mi se and ¼ mi nw of well.
		ILLINOIS—New Oil Pays									
White	Burnt Prairie	New Penn. Dev.'s Whitlow 4, ne nw sw, 28-3s-9e	.....	8- 1-44	3430	3287–3305	Aux Vases sd, Miss.	P 50	.....	.....	Probably small.
Edwards	Browns Pool	Superior's Lipper 6, nw sw se 28-1s-14w	6-11-44	7-11-44	3071	2993–2998 3130–3136	McClosky li, Miss.	4444	.....	.....	Will greatly step up production in pool.
Edwards	Grayville	Wall's Laura Steek 1, 530′ fr w, 330′ fr n of se 18-3s-11e	5-31-44	7-18-44	3165	3122–3165	Rosiclare sd, Miss.	123	.....	.....	¼ mi fr 2 dry holes which tested Rosiclare. Prospects moderate.
Wabash	Patton	Lynn's Carson 3, nw sw nw 28-1n-12w	6-13-44	7-11-44	2298	2275–2293	Aux Vases sd, Miss.	P 70	.....	.....	Should increase operations in area. Sizable reserves and room for expansion.
		ILLINOIS—Oil Field Extensions									
Edwards	Cowling	Wickham's Schroeder 1, nw ne se 27-2s-14w	5-14-44	8- 1-44	3004	2971–3004	McClosky li, Miss.	P 55; 100 wtr.	.....	.....	May open small new pool. Nearest dry holes testing McClosky are 2¼ mi w, ½ mi n, 1½ mi e, 1 mi s.
Edwards	Bone Gap	Schrack's McDowell 1, ne nw nw 6-1s-14w	6- 2-44	7-25-44	3198	3153–3157	McClosky li, Miss.	P 30	.....	.....	Improves McClosky possibilities for at least 1 sq mi. Nearest dry holes 1 mi s, 2½ mi w, 2¾ mi e.
Madison	Marine	Obering's Bird 1, se nw se 8-4n-6w	6-27-44	7-25-44	1747	1719–1747	li, Silurian	P 45	.....	.....	Extends Marine pool ¾ mi e. Moderate prod expected to s and n over at least 1 sq. mi.
Wayne	Mt. Erie, N.	Dolly-Rayfield's Ansburg 1, sw ne se 9-1n-9e	6-11-44	7-18-44	3247	–3247	McClosky li, Miss.	210; 15 wtr.	.....	.....	May be new pool. Area limited by dry hole 1 mi e and s
Wayne	Geff	Pure's Wayne Co Farm 1, sec 24-1s-7e	6-12-44	7-11-44	3332	3312–3332	McClosky li, Miss.	382; 176 wtr.	.....	.....	May be new pool. Adjacent prod. is 1¼ mi e and n and 1 mi s. Improves prospects to s and e for at least 2 sq mi.
		INDIANA—New Oil Field									
Gibson	.....	Cherry & Kidd's Baird 1, sw sw ne 25-3s-12w	.....	7- -44	2520	2515–2520	McClosky li.	P 163	.....	.....	.....
		INDIANA—New Oil Pay									
Posey	New Harmony, S.	Central Pipe Line Co.'s Rutledge 2, sw sw ne 14-5s-14w	.....	7- -44	1925	1915–1925	Degonia sd.	P 154	.....	.....	Pool's other prod fr Hardinsburg sd.
		KANSAS—New Oil Fields									
Barton	Peach	Phillips's Chal 1, se se nw 25-16s-14w, 1 mi w Trapp fld.	.....	7-19-44	3441	3401–3441	Arbuckle li, Ord.	P 145	38	Ant; sub.	May cover 200 ac; saturation, porosity fair.
Barton	Unnamed	Derby's Kruckenberg 1, se se nw 13-19s-15w, ½ mi se Kruckenberg fld.	.....	7-12-44	3552	3547–3552	Reagan sd, Cam.	P 36	.....	Str. trap; dr.	Unimportant strike.
McPherson	Jenday	Derby's Day 1, nec 1-19s-2w, 3 mi ne Ritz-Canton fld.	.....	7-22-44	3006	2984–3006	li, Miss.	P 100	.....	Str trap; sub.	Fair discovery; may cover ½ section.
		KENTUCKY—New Oil Field									
Henderson	.....	Sohio's Rash heirs 1, 24-0-25	.....	7- -44	1727	–1727	Tar Springs sd, Miss.	P 89	.....	.....	Se part County.
		KENTUCKY—Oil Field Extension									
.....	St. Vincent	Shell's Clements 1, 9-0-20	.....	7- -44	.....	.....	McClosky li, Miss.	F 1,000	.....	.....	.....
		SOUTH LOUISIANA—New Oil Pays									
Acadia	Egan	Sun's C. J. Freeland 1, 665 w & 656 n of sec 29-9s-1w	4-23-44	6-21-44	10796	10765–775	Frio sd, Olig.	F 502; $\frac{7}{16}$″	35.6	.....	1½ mi ne prod and first crude oil for fld. Single well reserve 200,000–250,000 bbls.
Iberia	Avery Island	Humble's Petit Anse B-1, 677.4′ n, 1723.1′ w of se cor 23-13s-5e	.....	7-15-44	10546	10162–175	Miocene sd.	F 369; $\frac{5}{32}$″	42.2	D; sur, geop.	Single well reserve 200,000–240,000 bbls; area unknown.
		SOUTH LOUISIANA—Oil Field Extension									
Evangeline	Pine Prairie	Gulf's Schlicher-Thomas A-8, 1017.3′ w, 330′ n of sec ne/4 3-4s-1w	3-19-44	7-17-44	10669	9272–9293	Sparta sd, Eo.	F 110; $\frac{3}{16}$″	39.6	D; fl, dr.	First prod on s side dome; limited importance.
		SOUTH LOUISIANA—New Distillate Fields									
Iberville	Laurel Ridge	Humble's Adam Hymel 1, 800′ ne alg nwl 91-10s-13e fr nwc, thence 470′ se at rt ang.	4-15-44	7- 3-44	10846	10688–705	Miocene sd.	F 113; 5.65 mln gas; ¼″	49.1	Dome; seis.	Single-well reserve perhaps 200,000 bbls.
St. James	College Point	Humble's Rosa Roussel Keller 1, 6109′ s'ly alg wl sect 30 fr nwc th 660′ e'ly at rt ang in 30-12s-4e.	4- 5-44	7- 5-44	10893	10750–772	Miocene sd.	F 205; 8 mln gas; ¼″	46.5	Dome; seis.	Probably fair gas-condensate reserve.
		SOUTH LOUISIANA—New Distillate Pay									
St. Martin	St. Martinville	Continental-Std. of Kan.'s Std. of Kans. Fee 2, 1550′ nw, 330′ sw of nec 137-10s-6e.	2-13-44	7- 8-44	10042	9734–9744	Miocene sd.	F 39; $\frac{5}{32}$″	51.8	Dome	3000 ft n of prod. Relatively unimportant is this location, but possibility of deeper oil sds than present shallow prod.
		MICHIGAN—New Oil Fields									
Allegan	Unnamed	Clifford A. Perry's Bieber 1, se nw nw, 4-4n-12w, Dorr Twp.	5-20-44	7- 1-44	1683	1680–1683	Traverse li, devo.	Sw Soil; 12 wtr.	43	Sub, geol.	Mediocre area; 4 mi e N. Salem pool.
Montcalm	Bloomer	H. L. Wadsworth's Peters 1, nw sw sw 32-9w-5w, Bloomer twp., 10 mi se Crystal fld.	6- 1-44	7-10-44	2658	2656–2658	Traverse li, Devo.	F 231	42.3	Ant; sub.	No control to evaluate. Most Traverse lime flds have been spotty and small in area.
		NEW MEXICO—Oil Field Extension									
Lea	Eunice, S.	Continental's Bill Meyer 2-A-29, c sw sw 29-22s-36e, 1½ mi s nearest oil prod, ½ mi w of gas well.	5-31-44	6-30-44	3648	3605–3648	li, Perm.	F 96	35	Ant; geol.	Paves way for linking S. Eunice and Lynn oil areas w narrow oil producing belt on w flank gas producing structure.
		NEW MEXICO—New Gas Field									
Lea	.....	DeKalb Agricultural Assn's Stovall-Magnolia 1, c ne sw 8-20s-38e, 2⅛ mi ne Skaggs fld.	3-25-44	7-20-44	7955	3150–3200	Yates sd, Perm.	2.5 mln.	Gas	Ant; geol.	Gas vol inadequate to attract commercial outlet. Decisive tests w negative results made of numerous oil shows in

County	Field	COMPANY, WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horizon (Feet)	[1]Name, Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure: [4]Method of Discovery	Tentative Evaluation of Discovery or Extension
		OHIO—New Gas Field									
Lorain	Charles twp.	Belmont Quadrangle Drlg Co. on Mahler Fee in sec. 24	.....	7- -44	2398	2386-2398	Clinton sd.	1.3 mln.	Gas	.....	New pool in se part Charles twp.
		OHIO—Gas Field Extension									
Muskingum	Wayne, S.	H. K. Porter well in section 8	.....	7- -44	3800	3777-3800	Sand	0.8 mln.	Gas	.....	¾ mi sw extension and separate pay fr older part of pool.
		OKLAHOMA—New Oil Fields									
Creek	Unnamed	Ashland O & R Co.'s Mills 1, ne se 35-15n-9e	.....	7- 6-44	2403	2397-2403	Red Fork sd, Penn.	P 90	34	Ant; sub.	May cover a section. 8 mi se Bristow.
Garvin	Unnamed	Continental's Parks 1, se ne se 28-4n-1w	.....	7-10-44	4870	4468-4502	Viola li, Ord.	F 18	....	.....	Unimportant. 4 mi w Pauls Valley pool.
		OKLAHOMA—Oil Field Extensions									
Logan	Edmond, W.	Phillips' Cavin 1, ne nw 32-15n-4w	.....	7- 1-44	6848	6796-6856	Bois d'Arc li, Devo.	F 445; ½"	41	Str trap, dr.	Important. extends pool 3 mi n into Logan County.
Oklahoma	Edmond, W.	Phillips' Coder 1, se ne 9-14n-4w	.....	7-10-44	6718	6588-6638	Bois d'Arc li, Devo.	F 1285; ½"	41	Str trap; dr.	Important; adds about 640 ac 1 mi e of pool.
Oklahoma	Edmond, W.	Phillip's Gomer 1, sw nw 16-14n-4w	.....	7- 4-44	6750	6660-6730	Bois d'Arc li, Devo.	F 400; ½"	39	Str trap; dr.	Important; extends pool 1 mi ne.
		OKLAHOMA—New Gas Fields									
Creek	Unnamed	Sinclair's Goff 1, ne sw sw 14-14n-7e, 1½ mi sw Stroud pool	.....	7-14-44	3232	2657-2669	Prue sd, Penn.	F 1.9 mln.	Gas	Mono; sub.	Undetermined sd conditions; several small pools in area.
Kay	Unnamed	Chas. M. Jenkins' Fee 1, se se nw 3-25n-2w, 2½ mi ne Thomas area.	.....	7- 7-44	4375	4355-4375	lime, Miss.	F 10.0 mln.	Gas	Ant; sub.	May cover half section.
Seminole	Unnamed	B. & M. Drlg Co.'s Mathis 1, se se sw 6-6n-6e, 2 mi w Dora pool	.....	7- 1-44	3108	2778-2795	Cromwell sd, Penn.	F 8 mln.	Gas	Ant; sub.	Small structure.
Stephens	Unnamed	Texas Co.'s Cooper 1, sw sw sw 16-2n-8w, 9 mi e Hanbury area.	.....	7- 2-44	5360	4743-4785	Sand, Penn.	F 9.3 mln.	Gas	Ant; sub.	Structure covers about 2½ sections.
		OKLAHOMA—New Gas Pay									
Grady	Chickasha	Okla Natural Gas Co.'s Rider 1, ne ne se 15-5n-8w	.....	7-10-44	6270	3100-3220	Sand, Perm.	F 6.0 mln.	Gas	Ant; sur, dr.	Appears unimportant. ½ mi w of older prod.
		NORTH TEXAS—New Oil Field									
Young	.....	Northern Ordnance's F. H. Robertson 2, 1350 ft nsl, 4115 ft wel F. L. Green sur A-105, 2¼ mi nw nearest oil prodn.	4-19-44	7- 5-44	4283	4175-4180	Marble Falls sd, Penn.	P&F 155; 116 wtr; ½"	32	Ant; geol.	Not important: thin pay, much water. Co. offsets to w and n carried to Ellenburger; latter aband, other show for small gasser w water in Marble Falls.
		WEST CENTRAL TEXAS—New Oil Field									
Jones	.....	Merry Bros. & Perini-Alder Oil Co.'s Ida L. Weaver 1, 330 ft out sec T&P Ry 6, blk 17	5-21-44	7- 8-44	2474	2463-2467	Cook sd, Penn.	P 75	38	Ant; geol.	Not important. 1¼ mi s by e Freeman 1-well pool in 2800-ft Gunsight.
		WEST CENTRAL TEXAS—New Oil Pays									
Fisher	Howard	Northern Ordnance's Mary Howard 1-B, 441 ft snl, 660 ft ewl of n-102½ ac of s½ H&TC Ry. 180, blk 2.	4-16-44	7- 7-44	5609	5562-5609	Strawn li, Penn.	F 602; ½"	39.6	Ant; geol.	Offsets 3700-ft pumpers, flows by heads on sustained production, so is smaller well than indicated.
Jones	Idria-Kelso	Eltex, Ltd's A. M. Wimberly 1, 330 ft out nwc e½ T&P Ry. sec. 25, blk 17.	5-14-44	7-10-44	2579	2200-2215	Tannehill sd, Penn.	P 260	38	Ant; geol.	Not important. This sand dry in pool's 2500-ft Gunsight pay discovery pumper, 1600 ft to w.
		WEST TEXAS—Oil Field Extensions									
Andrews	Means	Sun's F. E. Gardner 1, e w½ nw ne PSL 17, blk A-35.	5- 8-44	7-27-44	4562	4431-4554	Grayburg li, Perm.	F 232; 1/16"	31.5	Ant; geol.	1¼ mi w extension; pay somewhat higher in section than those in fld proper.
Cochran	NW Slaughter	Helmerich & Payne's D. S. Wright 1, 660 ft out sec Labor 19, League 97, Brewster CSL.	3-19-44	7-12-44	4921	4901-4921	San Andres li, Perm.	P 369	31.4	Ant; geol.	This 2½ mi nw outpost and those in general area considered offshoots of Slaughter, but less consistent, and yield lower.
Howard	Moore	Jno. B. Hawley Jr.-Northern Ordnance's J. H. Allison 1, 2316 ft nsl, 1654 ft wel T&P Ry. 6, blk 33, T-1 S.	4-19-44	7-11-44	3134	3066-3134	San Andres li, Perm.	P 30	29	Ant; geol.	1¾ mi n outpost. Small pumpers after heavy nitro shots typical for area, and further extensions likely.
Howard	Morita	Jno. B. Hawley Jr.-Northern Ordnance's Guitar Est 1, nw ne sw sect 2, blk A, Bauer & Cockrell sur.	4- 1-44	7-10-44	3225	3150-3225	San Andres li, Perm.	P 31 oil; 4 wtr.	29	Ant; geol.	1½ mi se extension; on par w wells in fld proper; paves way for likely uniting of Morita and Moore areas
		UPPER TEXAS GULF COAST—Oil Field Extension									
Wharton	E. Campo	Seaboard's Rudolph Holub 1, 467′ fr se & e lines ne/4 sect 62	5- 7-44	7-18-44	7715	6820-6824 7588-7592	.....	F 157; 1/8"	38.9	Ant; dr.	½ mi se outpost; adds about 360 ac. 1-well reserve 100,000 bbls.
		UPPER TEXAS GULF COAST—New Gas Pays									
Brazoria	Danbury	Humble's Dvorsky 1, 900′ se & 550′ne of sw cor W. B. Chambers sur.	2-21-44	6-28-44	9762	8036-8054 8074-8084	.....	F 30 dist; 3. mln; ¼"	Dist-gas	D; flnk. dr.	Relatively unimportant; e flank fld.
Chambers	Smith Point	Standard of Texas' State-Galveston Bay 3-109, 660′ fr nel & 1980′ fr sel of State tr 109.	.....	6-27-44	9785	9442-9458	Frio sd, Olig.	F 16 mln.	Gas	.....	2952 ft ne prod. Limited value as gas reserve from field at present. Only well to this sand.
		LOWER TEXAS GULF COAST—New Oil Fields									
Jim Wells	Unnamed	H. H. Howell's Lorena Spoonts 1, 467′ fr s & e lines blk 12, Adams Farm tracts, Los Presnos grt; 6 mi se Alice.	6-17-44	7- 4-44	5887	5443-5450	Frio Vicksburg sd, Olig.	F 298; 1/8"	32	Ant; seis.	Single-well reserve 120,000 bbls. East offset dry. Probably relatively unimportant.
Victoria	Pridham Lake	Kingwood O. Co.'s Wilden 1, 660′ fr ne & nw lines 183.89-ac lse, blk 1, Victoria 4-Lge Town Grant; 2 mi sw Victoria.	.....	7- 3-44	4907	4770-4774	Vicksburg sd, Olig.	F 107; 2/64"	24	Ant; sub.	Appears relatively unimportant. Area may be small.
		LOWER TEXAS GULF COAST—New Distillate Field									
Brooks	Unnamed	Sun's Chas Boedecker Est A-3, 467′ fr s & w lines R. Guzman sur 16.	3- 6-44	7-10-44	7235	6137-6167	Vicksburg sd, Olig.	F spray; 1 mln; 5/32"	Dist.	Ant; seis.	May be important gas reserve. 16 mi s Falfurrias.
		LOWER TEXAS GULF COAST—Distillate Field Extension									
Jim Wells	Wilson	Sam E. Wilson's J. P. Minten Est 1, 467′ fr s&e ls of 118.2-ac. tr. lots 27 & 28, blk 12.	1- 8-44	5-15-44	7874	7294-7297	.....	F spray	Dist.	.....	4300 ft ne outpost; adds several hundred ac gas area.
		SOUTH CENTRAL TEXAS—New Oil Field									
Wilson	Lavernia	H. A. Rice's S. C. Scull 2, 800′ snl 3500′ ewl 1695 ac tr sec 8, Manurl Ximines grt.	3-17-44	6- -44	1492	1467-1492	.....	P 5	.....	Fault; sub.	Unimportant. 3½ mi ne Lavernia.
		SOUTHWEST TEXAS—New Oil Field									
Duval	Unnamed	Harvey-Henderson's J. F. Welder 1540 ac lse, Sam. Alexander sur.	5- 1-44	6- 7-44	2076	2069-2076	Gov Wells sd; Eoc.	P 62.5	....	Ant; sub.	Relatively unimportant. 1¼ mi se Eagle Hill fld.
		SOUTHWEST TEXAS—New Gas Field									
Webb	S. Bruni	Chas. Fraser's A. M. Bruni 1 (447), 330′ snl, 1602′ ewl s½ sur 447	3- 4-44	7- -44	1812	1793-1812	Cole sd; Eoc.	F	Gas	Ant; seis.	Unimportant. 6 mi s Bruni.
		WYOMING—Oil Field Extension									
Park	Elk Basin	Carter Oil Co.'s Johnson 1, ne ne se 6-57n-99w	.....	7- -44	5963	4214-5963	Tensleep sd, Penn.	P 54; 96 wtr.	....	Ant; sub.	½ mi s extension; small well.

[1] Character of producing formations abbreviated thus: li, limestone; sd, sandstone; sh, shale; ch, chalk; ser, serpentine; cgl, conglomerate. Ages of formations abbreviated thus: Pleis, Pleistocene; Plio, Pliocene; Mio, Miocene; Olig, Oligocene; Eoc, Eocene; U. Cre, Upper Cretaceous; L. Cre, Lower Cretaceous; Jur, Jurassic; Tri, Triassic; Perm, Permian; Penn, Pennsylvanian; U. Miss, Upper Mississippian; L. Miss, Lower Mississippian; Miss, Mississippian; Devo, Devonian; Sil, Silurian; Ord, Ordovician; Cam, Cambrian.

[2] Barrels of oil per day (24 hr rate), flowing (F), pumping (P), swabbing (Sw), or bailing (B); or million cubic feet of gas daily, open flow capacity; size of choke given in inches. [3] Type structure abbreviated as follows: Ant, Anticline; D, dome; Fld, Fold or Folded; Flt, Fault or Faulted; M, Monocline; N, Nose; SD, Salt Dome; Str trp, Stratigraphic trap; Syn, Syncline; Ter, Terrace. [4] Method of discovery abbreviated as follows: cd, core drilling; dr, drilling; geol, geology; geop, geophysics; grv, gravity meter; ran dr, random drilling; seis, seismograph; sub, subsurface geology; sur, surface geology.

East Texas Salt Water Plant

This photograph shows a salt-water treating plant in the East Texas field being rushed to completion by the East Texas Salt Water Disposal Company, to take care of the water being produced but not injected at this time. It is estimated that approximately 80 percent of all the water produced in the field is being returned to the Woodbine sand through disposal wells.

July Oil Exploration

■ CONTINUED FROM PAGE 53

over last year approximating the 23 percent increase for all exploratory completions. However, new discoveries (new fields and new pay zones) show a 26 percent increase over last year, while extensions considered important enough to count are up only 18 percent, and the latter gain is accounted for by more extensions of distillate and gas fields, as oil field extensions have run practically the same as last year.

Among the new discoveries, too, there have been relatively better results in opening new sources of distillate and gas than in opening new sources of oil. Distillate discoveries (new fields and new pays) have run 60 percent higher than last year and gas discoveries 83 percent higher, while total oil discoveries are up 14.5 pereent. That 14.5 percent gain in all oil discoveries is the net result of gains of 16.4 percent in new fields and 10.8 percent in new pay zones established. As compared with last year, therefore, there have been diminishing returns from exploratory effort directed toward new pay horizons in established fields, and the better results have been shown in finding entirely new fields.

As indicated previously, field extensions of July probably rate mention ahead of the generally mediocre discoveries of new fields and new pays. In Oklahoma the booming West Edmond field was given three important extensions: 3 miles north, 1 mile east, and 1 mile northeast. In West Texas there were 4 recorded extensions: Means field, Andrews County, 1¼ mile west; Northwest Slaughter, Cochran County, 2½ miles northwest; Moore, Howard County, 1¾ miles north; Morita, Howard County, 1½ miles southeast. Elk Basin field's Tensleep pay, Wyoming, was further extended ½ mile south. In Illinois 3 successful outpost tests in Edwards and Wayne Counties are tentatively classed as extensions to established fields but may prove discovery wells of new McClosky lime pools.

Poor California Return

New sources of oil are needed particularly in California, with heavy fighting ahead in the Pacific. But discovery of 2 shallow pools, neither of indicated importance, constituted a poor return for July exploration, still on a very broad scale. New production was opened on the Lucky Baldwin Ranch, North Whittier Heights area, Los Angeles County, from 185 feet of Puente formation (Miocene) in a fault trap of undetermined extent. The well yielded 40 barrels daily of clean, 19-gravity oil. The other discovery opened a new low-gravity field, producing 70 barrels daily of 14 gravity oil from 2180-2225 feet of Olcese sand (Miocene) in the Ant Hill area, north of Edison field, Kern County. Against this discovery showing were recorded 47 wildcat failures, inclusive of semi-wildcat and extension attempts, with probably one fourth the total averaging more than 10,000 feet in depth.

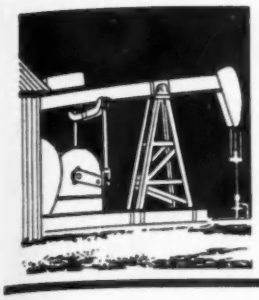
The Middle West also badly needs new crude reserves but failed to gain them in material amount in July. Some new fields and new pays were found in Illinois, Indiana, Kentucky and Michigan, but none appeared very important.

Kansas gained 3 new oil fields, but all are expected to be small. Gas discoveries predominated among Oklahoma's successful wildcats, and Arkansas scored no discoveries except a distillate field. In New Mexico a gas field was found and the South Eunice oil field was extended. South Louisiana gained 2 new distillate fields, several new pays, and an oil field extension.

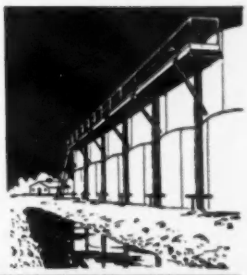
Texas had a comparatively poor month in exploration. West Texas recorded only the above mentioned oil field extensions, and the several discoveries of North and West Central Texas were unimportant. South Central and Southwest Texas likewise furnished only a few unimportant strikes. The upper division of the Texas Gulf Coast scored only gas discoveries—2 new pays, and the lower divison added to the map 2 oil fields, a distillate field, and a distillate field extension.

☆

PARK J. JONES, production consultant, a graduate of the University of California and formerly associated with The Texas Company on production, has opened a Houston office. His address is Box 6622, Houston 5.



OPERATING HINTS *For Production Men*



Stripper Well Pump Collects Fuel Gas

Jack-operated suction pump, tied into flow line at well, pulls sufficient gas to meet power need.

In certain stripper fields producing heavier grades of oil, the casing head gas to be recovered from each well is almost negligible and it therefore is a problem to provide sufficient gas to run small engines and supply domestic needs in lease houses. Even if it were feasible to recover the fuel through a gas gathering system, the cost of tubular goods alone in the pipeline network would be prohibitive in relation to the small quantity of gas recovered.

POWER UNIT OPERATION

One operator solves the problem economically by installing a simple shop-made plunger pump on the side of the tubing head and operating it with the motion supplied by the well jack. Through a composition hose connected into a small fitting in the side of the casilng head, gas is drawn up into the pump barrel, then forced through another short length of hose which connects into the upstream side of the check valve of the oil lead line. Gas is thus transported through the lead line and into the tanks. In the first tank, which is provided with a gas-tight cover, the gas is collected and conducted over to nearby facilities needing the fuel.

While the vacuum maintained at the well head might not exceed a few inches of mercury and the volume measured is in hundreds instead of thousands of feet per day, nevertheless a number of such pumps scattered throughout the field on wells that show promise of supplying a little more gas than the others, will maintain a steady, economical and dependable supply for lease facilities.

Supplementary Cab Solves Crew Problem

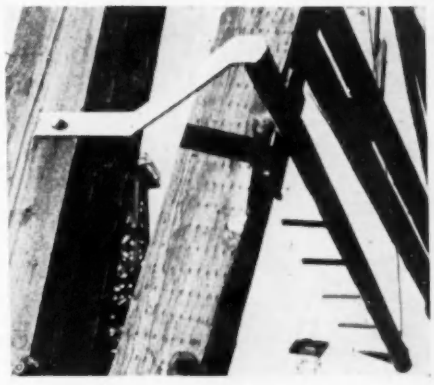
As a result of shortages and restrictions imposed in the use of all types of vehicles, one contracting company, finding it necessary to develop some means of transporting their men to remote jobs, devised a convenient, inexpensive method of making one unit do the work of two.

PERSONNEL TRANSFER

Whereas in pre-war days a small pick-up truck or other passenger vehicle would accompany the service truck out to the job, the company now has mounted the salvaged cab portion of a junked pick-up truck immediately behind the truck cab. This all-welded cab section will easily carry three men in comfort and protect them from the weather.

Mounted on a raised channel iron base bolted to the truck cab and bed, the extra cab takes little away from the carrying capacity of the truck for the ordinary job, since long tools, tubular goods, etc., still may utilize the full length of the truck bed. Should the truck be urgently needed for a larger job, the cab may be removed temporarily.

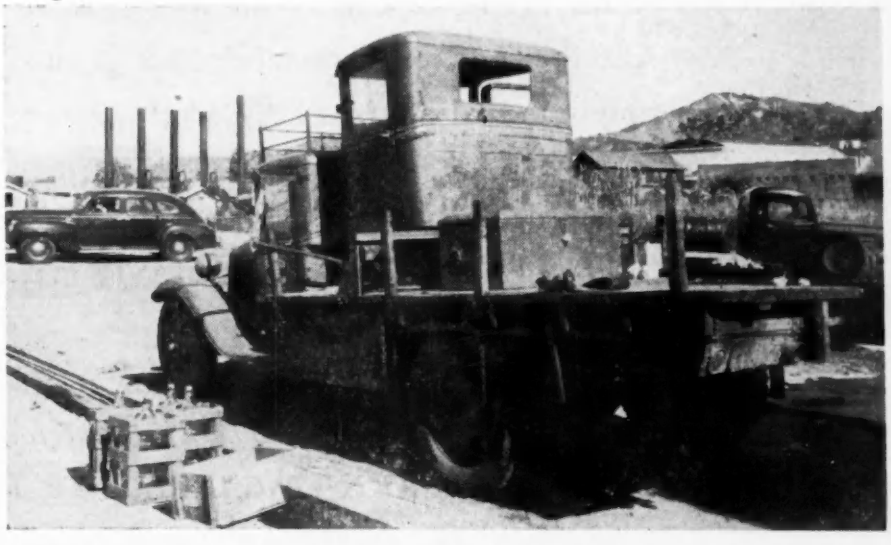
Segregating Rack Speeds Rod Pulling



Pipe bracket with sucker-rod dividers aids in grouping and retaining rods as they come from well.

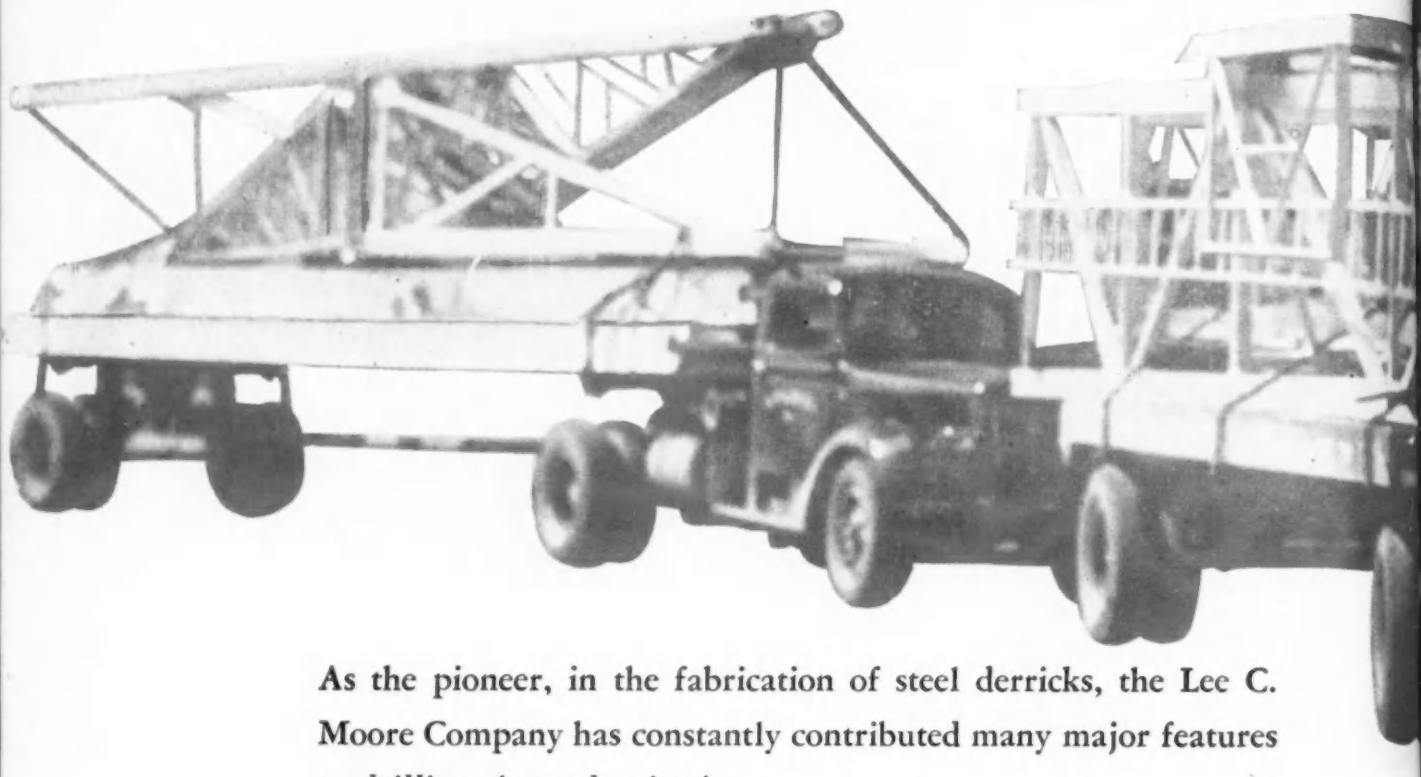
Affording ample room and strong support for tying back a 5000-foot string of sucker rods, a rack similar to the one pictured may be built in a short while by the welder out of scrap materials. A 10-foot length of 3-inch pipe studded with five evenly-spaced horizontal short sections of sucker rod material along approximately two thirds of its length is mounted in the derrick at convenient height; somewhere between seven and nine feet above the derrick floor. A short heavy section of flat steel

SUCKER ROD RACKING



By mounting a second cab on elevated supports behind driver's unit, this truck can carry all of servicing crew and eliminates need for second car without hampering material haulage.

Moore MASTS

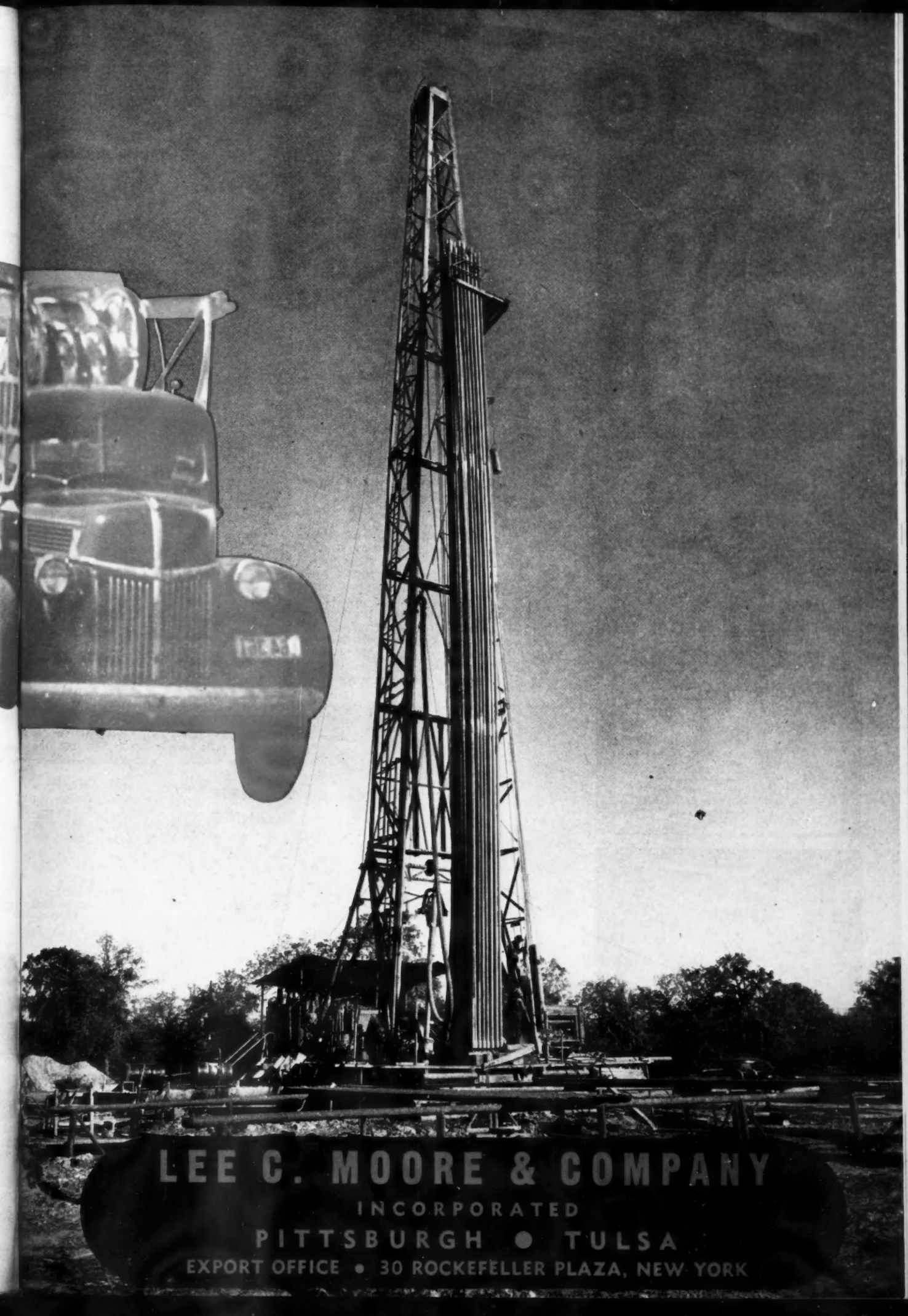


As the pioneer, in the fabrication of steel derricks, the Lee C. Moore Company has constantly contributed many major features to *drilling rig modernization.*

The MOORE JACKKNIFE CANTILEVER DRILLING MAST as an example, is highly portable (two or three trailer trucks will transport it, depending on size) — mast is complete in every detail — has conventional derrick capacities and accommodates any standard unitized draw-works, rotary and power.

Many drilling contractors and operators have already learned of the advantages of MOORE MASTS in transportation, erection, rigging-up and dismantling.

Become acquainted with the superior performance of MOORE JACKKNIFE CANTILEVER DRILLING MASTS.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Size: 2"; **Weight:** 12 lbs.; **Test Pressure:** 6000 lbs.; **Safety Factor** (at 6000 lbs.): 7.3 . . . **that's UNIBOLT!** (A ring joint flanged union of the same size and test pressure weighs 54 lbs. and has a safety factor of only 6.5.)

★

THORNHILL-CRAVER COMPANY
HOUSTON

PAGES 3079 THRU 3098
IN THE 1943-44
COMPOSITE CATALOG

is welded to the pipe near the one end and is bolted securely to one of the corner derrick upright members. A heavy strap of steel welded to the extreme end is also bolted to another derrick member, providing strength against the tendency for the rack to twist in a horizontal plane when supporting a full load of rods. A length of wire extending from the unsupported end of the rack up to the derrick member which also supports the welded plate provides additional support.

Inexpensive to build and maintain, the rack is easily adapted to nearly any derrick arrangement, is out of the way of other operations on the floor and may, if necessary, be disassembled and removed in only a few minutes.

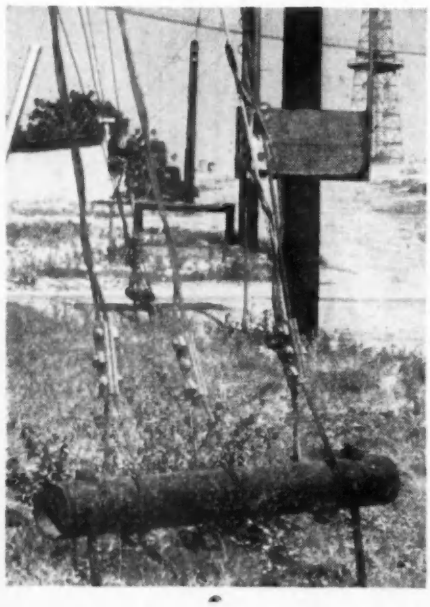
Combination Deadman Simplifies Guy Hitch

DERRICK ANCHORS

Conservation of space and elimination of duplicate work can be attained when laying out the anchorages for servicing derrick guy lines if a common point, equidistant or most readily accessible to two or more derricks be selected as the spot for the deadman.

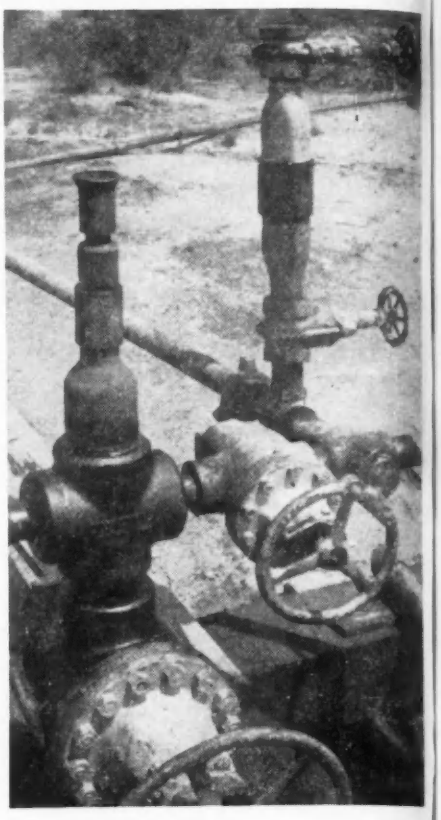
By aligning the buried member so as to take the pull from adjacent or opposite derricks, it is possible to set up a horizontal above-ground member, anchored to the buried section by two heavy bolts, and to distribute the loops of the guys across the spacer so as to equalize the pull on the tie-down bolts.

Welding loops or eyelets across the lower side of the pipe used as holddown, allowing sufficient clearance for threading the guy wires, maintain the initial spacing of the guys, and concentration of the load at one end—occurring when unrestrained guys are alternately slacked and tightened by wind or load stresses—is forestalled. Uniform spacing of the guys also enables slack to be taken from any one without interference from the others.



Above-ground unit, tied to buried deadman, has spacer loops for distributing multiple guy load.

Salt Removes Paraffin From Field Flow Lines



Lubricator and valve for forcing rock salt into line where abrasive action of grains cuts deposit.

PARAFFIN CLEANING

Paraffin accumulations in flow lines can be satisfactorily and easily removed at very low cost by introduction of common rock ice cream salt into the flow line, where it will act as an abrasive.

A home-made lubricator consisting of a short 4-inch nipple swaged to a 2-inch gate valve on each end is connected into a tee inserted in the flow line adjacent to the well head. With the well shut in, a few handfuls of rock salt are lubricated into the flow line. The well then is opened up into the separator, and the blasting of the sharp-edged particles of salt through the line abrades the accumulated paraffin from the pipe walls. The process can be repeated several times if necessary, and the paraffin and salt can then be drawn off from the separator through the drain.

This method has been used successfully on 2-inch flow lines in which the accumulated paraffin had in places reduced the diameter of the pipe to the size of a lead pencil, without the salt and paraffin balling up and stopping up the pipe, as might be supposed to happen. In the event a portion of the salt is trapped either in the line or the separator, it soon dissolves in the oil and/or water and is completely removed. The cost involved, including time, labor and materials, is only a matter of cents per cleaning job, and the entire operation can be performed by a single pumper in the course of his daily operations.

HAYSTELLITE INSERTS
reduce drilling costs

Good bits, correctly set with Haystellite inserts and faced with Haystellite tube rod, assure maximum round-trip footage of out-to-gauge hole.

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Haystellite cast tungsten carbide inserts are available in thirteen standard sizes and shapes. One type is shown here, actual size.

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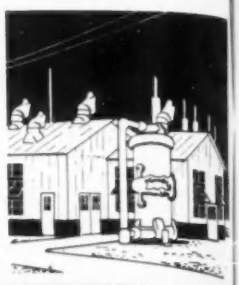
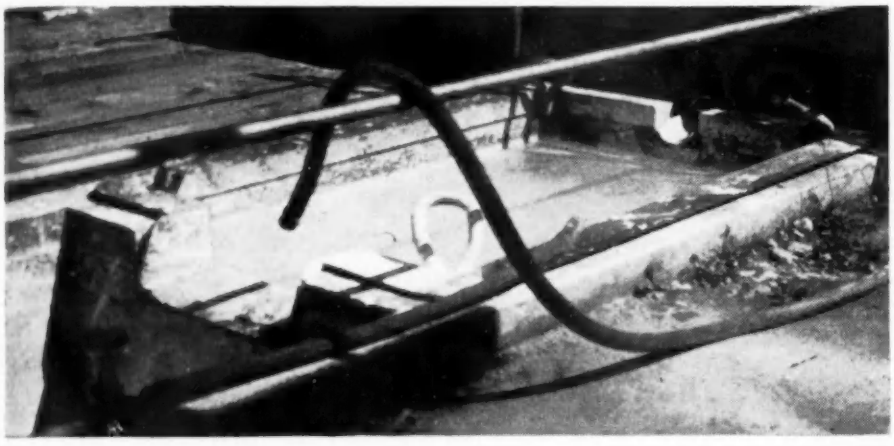
OPERATING HINTS *For Pipeliners*



Sludge Disposal Pit Maintains Plant Site



Concrete pit, equipped with formed sheet steel liner, serves to trap acetylene generator waste and to afford effective means for transfer to site where spent material is not objectionable.

Sludge drained from an acetylene gas generator not only is unsightly when wasted on the ground near the generator, but also constitutes a fire hazard through the presence of unreduced carbide particles which may later become gasified and cause accumulation which will take fire.

STATION UPKEEP

One station which is also the district repair shop for a pipe line meets this sludge removal problem by construction of a rectangular concrete pit into which fits a steel vat provided with lip extending out beyond the weir provided at one end for outflow of water from which the sludge has settled. This vat is of heavy enough material so that lifting lugs, welded into the corners, permit the unit to be lifted by the winch truck and the vat and contents carried to some spot where wastage is permitted.

The flow of sludge into such a vat, where its contents is several times that of the accumulation space in the generator, permits quick charging of the generator simply by flushing out the old material without time lost in preparing for safe disposal.

Concentration of the sludge within the vat helps keep the yard clean, and prevents pollution of nearby watercourses, or the clogging of sewers.

C. S. FOREMAN COMPANY

General Contractors

PIPE LINES

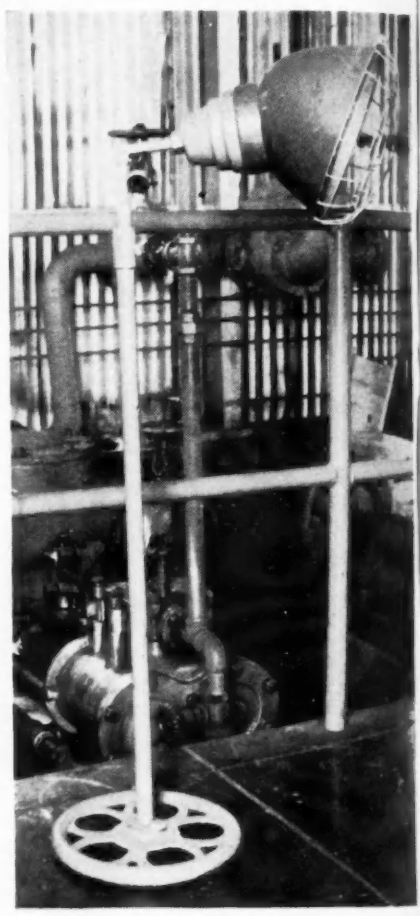
20 West Ninth Street
Kansas City, Missouri

Portable Lighting Aids Maintenance Work

Intensified illumination is frequently necessary in close places when making repairs or adjustments on engines, pumps and other machinery. Lack of means for spotting light at the right place at the right time frequently hampers the engineer's efforts and delays the needed repairs.

FLOODLIGHT SUPPORT

A portable flood lamp can be made in a short time and with no additional outlay of money other than the lamp and fixtures. A 4-foot joint of ¾-inch pipe firmly anchored in the center of a discarded gate wheel furnishes the main standard. A piece of pipe, or a rod which slides easily inside the standard is fitted at the upper end with a ball and socket joint or attached with an adjustable clamp to a short arm affixed to the lamp itself. A collar at the top of the standard is drilled and tapped for a wing set screw to adjust the height of the lamp. The wiring of the lamp may be made for standard socket connections for attaching the portable cord, or the cord may be attached permanently as desired.



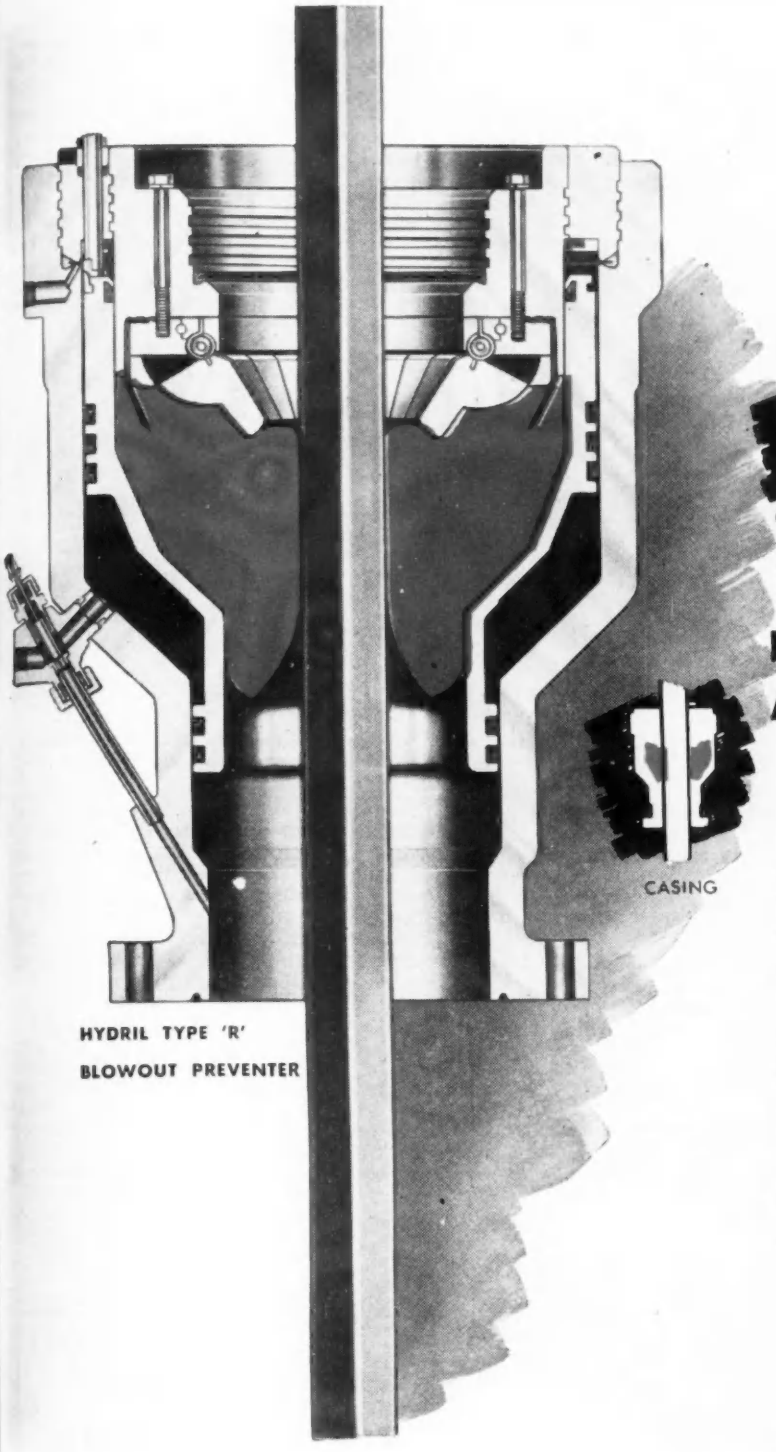
Salvaged valve wheel, old pipe and standard light fixture are combined to form this unit.

Electric Motor Drive Speeds Pipe Threading

On construction and maintenance jobs which are not large enough to use pipe machines for cutting threads, one company devised a means to supply the required power from a portable electric motor. The motor is underslung between two large wheels and belted to the front end of the transmission of an automobile drive assembly.

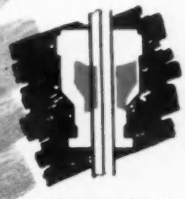
WELDING AUXILIARIES

Power is transmitted through the transmission, drive shaft, differential



HYDRIL TYPE 'R'
BLOWOUT PREVENTER

DRILL PIPE



SQUARE KELLY

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INSTANT PACK-OFF AROUND ANY DRILL STRING MEMBER

At a pull on the control valve the tough, resilient rubber packing unit of the Hydril Type "R" Blowout Preventer instantly packs off around the square kelly, drill collar, drill pipe, casing, or tubing.

This one blowout preventer gives you complete protection against blowout hazards from the start of drilling to completion of the well without change of cellar connections, even when running casing. For instance, the No. 4 size for use with 13⅜" casing will pass any tool that can be used in this size casing, yet it will pack off securely around any drill string member down to 4½" O.D., including the 4¼" square kelly. Then, by installing an interchangeable packing unit and back-up bushing, the blowout preventer can be used to run tubing as small as 2⅞" without disturbing any part of the hook up.

Write for complete engineering data on Hydril Blowout Preventers. Meanwhile, look on page 1373 of your 1944 Composite Catalog for detailed, illustrated facts.

HYDRIL

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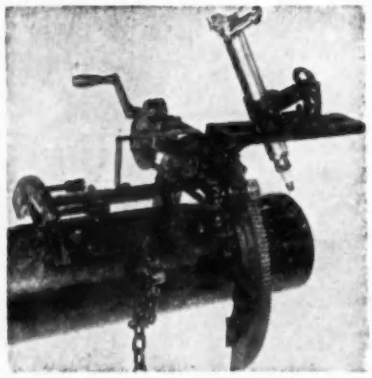
HYDRIL #12

Cut and Bevel Pipe the FAST and ECONOMICAL way



The H & M Pipe Cutting and Beveling Machine cuts any size pipe with speed, economy and accuracy.

SPEED: Complete cut and bevel can be made on 12 inch pipe in about 2 minutes.

ECONOMY: Save approximately one-half labor and gas costs.

PORTABILITY: Can easily be carried from one pipe section to another.

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Pipe Beveling Machine Co.
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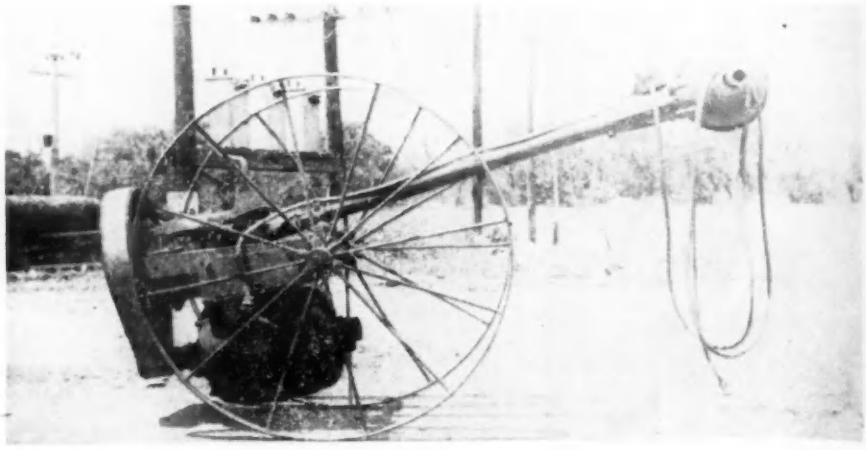
Buckeye Trenchers minimize right-of-way work. Dig in any soil. Ruggedly constructed. Faster. Readily maneuvered. Model 12 (shown) for gathering, gasoline and small natural gas lines. Models 32 or 48 for main lines. The standard trenchers for pipeline work.

BUCKEYE TRACTION DITCHER COMPANY
Findlay, Ohio
Built by Buckeye
TRENCHERS. SHOVELS. CRANES
BACKFILLERS. TRACTOR EQUIPMENT.

and axle to the coupling which has a square socket which fits the pipe dies. In operation, the dies are started on the pipe by hand, then the socket is slipped on the shaft of the dies in place of the hand ratchet. The transmission is placed in low gear and the switch, mounted on the rear on the drive shaft, is closed.

As soon as the starting threads are run on the pipe, the transmission is shifted into second or high gear. If there is time, the threads may be chased by shifting into reverse and backing off the dies.



Cantilever mounting of automobile transmission between salvaged fire extinguisher wheels, with underslung motor driving unit, provides flexible drive for powering large diameter dies.

Sturdy Welder's Seat Speeds Job Repair

SERVICING EQUIPMENT

To the pipeline welder, the hardest work is having to be continually bent over the work in a semi-crouched position for hours at a time. One welder eases his work and does a better job by using a self-designed stool that incorporates comfort, ease of handling and ability to withstand the rough work encountered in the field. Made out of scrap pipe materials, the stool consists of a central upright member of 2-inch pipe to which have been welded on the bottom four short out-spread legs. To the upper end are welded four longer sections and two outer members which support a seat made of a short length of salvaged 12-inch belting, the latter being laced with wire to form a comfortable seat.

Advantages of this stool are its rugged construction, ease of carrying from one welding position to another and maximum foot room—the support being the nearest possible approach to the simple one-legged stool. In the typical field conditions of soft earth and rough terrain, the small legs at the base tend to dig in and equalize the pressure, the central upright preventing too deep penetration and adding further stability as soon as its extended end also rests on the ground.

The seat frame is heavy enough to resist accidental overturning, yet is readily portable on the service truck between jobs.

Welded frame, with seat section of belting laced to end members, affords comfortable work seat.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

PIPE LINE SUPPLIES AND EQUIPMENT

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Pipe Line Review

Big-Inch Pipe Line Sets Pumping Record

The War Emergency Pipeline, Inc.'s 24-inch crude carrier from the Longview sector of East Texas to the East Coast set a new record in pumping 334,456 barrels of East Texas field crude during the 24-hour period ending August 7. The daily average for the week was 329,443 barrels, involving mixed grades of East Texas, Gulf Coast, Southwest Texas and Permian basin oils. The carrier is booked to handle an average of 325,000 barrels daily during August.

Shell Company Contracts For Hawkins Field Crude

Shell Oil Company has contracted to purchase 528,000 barrels of crude produced in the Hawkins field, East Texas, during the next 12 months for the asphalt crude requirements of its refinery at Noreco, Louisiana. The oil will be purchased from Standard Oil Company of Louisiana.

Cracking Plant Reopened

Danciger Oil & Refineries, Inc., has reopened its East Texas field crude skimming and cracking plant after a 4-year lapse, and will process 200,000 barrels monthly. The plant was restored to production by PAW, which arranged for Humble Pipe Line Company to supply the oil.

FPC Hearing Scheduled

The Federal Power Commission will hold a hearing August 18, in Washington, on an application filed by the Kansas-Nebraska Natural Gas Company, Inc., for construction and operation of 16 miles of 12¾-inch pipe line in Rooks County, Kansas, along the route of its existing 6⅝-inch line, which is to be removed and abandoned.

Ohio Oil Company Plans Pipe Line to Refinery

Ohio Oil Company has preliminary work underway for construction of a 6-inch pipe line to be laid from Robinson, Illinois to Indianapolis, Indiana for transporting refined products from the company's refinery at Robinson.

The line will have a carrying capacity of 16,000 barrels a day. Centrifugal pumping units will be erected at Robinson and the pipe line terminal will be at Speedway, Indiana with both transport and railroad loading docks.

Extensions Planned

El Paso Natural Gas Company plans pipe line extensions that will enable it to tie into the Keystone field, Winkler County, and take residue gas from natural gasoline plants proposed for the Fullerton and Union fields, Andrews County. The company has booked gas contracts in the Keystone 3-pay area, and will install a gathering system with a 13-mile 10-inch well-pressure line, extending from the heart of the Ellenburger producing area to its No. 1 gasoline plant and booster station in NW NW 7-26s-37e, near Jal, New Mexico.

Hearing Set to Determine Status of Pipe Lines

A test case to determine whether oil company pipe lines are common carriers subject to rulings of the Interstate Commerce Commission will be heard September 8 before a 3-judge federal court at Oklahoma City. The case has been filed by Champlin Refining Company of Enid, Oklahoma, which has petitioned for an interlocutory injunction suspending an ICC order subjecting a Champlin pipe line to provisions of the Interstate Commerce Act.

Contract to Lay Colorado Pipe Line Is Awarded

Contract for 110 miles of 6-inch pipe line to be laid for Utah Oil Refining Company from the Iles Dome pool via Craig, Colorado, to Wamsutter Station near Wamsutter, Wyoming, has been awarded to Eastern Construction Company of Dallas, according to an announcement by Stanolind Pipeline Company at Tulsa, which will supervise the project. Ground will be broken early this week and the project is expected to be completed in about 60 days. Eastern Construction Company has nominated the Parkhill Trucking Company of Tulsa as the hauling contractor. Contract to string telephone and telegraph lines was awarded to Midwestern Engineers of Tulsa.

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Crude Production and Runs Increased And Major Products Added to Storage

Satisfactory results in meeting demand were reflected for the week ended August 12, when high crude production and refinery runs resulted in sufficient production of principal products to permit some accumulation of each in storage.

Crude output again set a new record in averaging 4,667,000 barrels daily, up 16,000 from the previous week and 428,000 daily or 10 percent above production in the like week last year. Refinery runs of crude were up 31,000 barrels in averaging 4,560,000 daily, or within 100,000 barrels of the all time record set in June. They were 510,000 daily or 12.6 percent higher than a year previously. Crude stocks were at a new 22-year low when they dropped 2,181,000 barrels in the week ended August 5 to a total of 222,931,000 barrels, lowest since January 1922.

Gasoline production, including natural blended at refineries, averaged 1,958,000 barrels daily, having dropped below the 2 million level for the first time in an extended period. It was 62,000 daily less than in the previous week, but 273,000 daily or 16 percent more than in the like week last year. Stocks of finished and unfinished increased 59,000 daily and rose to 81,203,000 barrels, which was almost 10,000,000 barrels or 14 percent more than the 71,248,000 barrels on hand August 14 last year.

Gas oil and distillate fuel production was 1000 barrels a day higher than in the previous week in averaging 711,000 barrels daily. It was 123,000 daily or 21 percent greater than in the comparable week last year. Stocks increased 89,000 barrels daily, rose to 40,035,000 barrels, and then were 5,267,000 barrels or 15 percent above a year previously.

Residual fuel oil production was off 25,000 barrels daily in averaging 1,180,000 daily, and was 2000 daily or 2/10 of 1 percent less than a year previously. Stocks increased 62,000 daily and rose to 57,003,000 barrels, an amount 9,641,000 barrels or 14.5 percent less, however, than the 66,644,000 barrels reported for August 14 last year.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod.		Runs to Stills		Crude Stocks		Gasoline Stocks		Gasoil and Distillate Stocks		Residual Fuel Oil Stocks	
	Barrels Daily	Week Ended	Barrels Daily	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	49,861	11-14	95,857	1- 3
1943	4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	46,187	11-27	72,881	1- 2
1944	[1]4,667	8-12	[1]4,752	6-17	240,992	1- 1	89,162	4- 1	42,310	1- 1	57,330	1- 1
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,382	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	[4]222,931	8- 5	76,302	1- 1	30,232	4-29	49,737	3-18

TRENDS OF 1943 AND 1944

Trends in Week Ended:	Crude Oil			Gasoline		Gasoil and Distillate		Residual Fuel	
	Production Daily	Runs to Stills Daily	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 29	3,970	3,679	245,752	10,656	83,937	3,798	32,274	7,672	67,682
June 26	3,955	4,015	242,657	11,092	79,589	3,876	34,044	8,126	67,960
July 31	4,133	3,788	238,420	11,127	74,977	3,765	36,363	8,478	66,877
August 28	4,196	4,227	236,170	12,420	72,525	4,351	37,928	8,732	67,250
September 25	3,344	4,156	233,013	12,206	70,024	4,608	40,328	8,560	66,659
October 30	4,383	4,176	237,219	12,813	69,297	4,642	44,591	7,968	63,833
November 27	4,414	4,261	239,761	12,638	69,980	4,379	46,187	8,633	62,143
December 25	4,363	4,185	241,310	12,597	74,024	4,457	43,791	8,689	57,596
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,085	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,013	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,462	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
June 3	4,523	4,620	234,476	13,680	87,084	4,890	32,586	9,157	50,283
June 10	4,523	4,670	231,290	14,220	86,911	4,996	33,669	9,008	51,221
June 17	4,568	[1]4,752	230,565	14,398	85,268	4,870	34,137	9,489	52,017
June 24	4,583	4,638	229,332	14,066	86,000	4,337	34,328	8,961	52,757
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 8	4,579	4,645	[4]226,424	13,539	83,709	4,548	36,189	9,009	53,686
July 15	4,602	4,575	226,513	14,083	82,252	4,842	37,171	8,587	54,332
July 22	4,615	4,684	[4]225,294	14,243	82,150	5,073	37,513	8,947	55,315
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
Aug. 5	[1]4,651	4,529	[4]222,931	14,144	80,801	4,969	39,410	8,443	56,572
Aug. 12, 1944	[1]4,667	4,560	.....	13,708	81,203	4,976	40,035	8,264	57,003
Aug. 14, 1943	4,239	4,050	[5]237,382	11,795	71,248	4,113	34,768	8,282	66,644
Change:									
In week	+16	+31	—2,181	—436	+402	+7	+625	—179	+431
In year	+428	+510	—14,451	+1,913	+9,955	+863	+ 5,267	—18	—9,641
In year	+10.1%	+12.6%	—6.1%	+16.2%	+14.0%	+21.0%	+15.1%	—0.2%	—14.5%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922 due to shutdown of six Mid-Continent states. [4] Lowest since January, 1922. [5] Stocks, August 7, 1943.

Wooden Barges for Oil Are Proving Satisfactory

Wooden tank barges admittedly are not as efficient as steel carriers but have proved by experience to be "satisfactory" for the war time transportation of petroleum products, it was reported by the Office of Defense Transportation August 5.

More than two thirds of the 269 barges contemplated in the ODT's program are now in use, 64 of them hauling residual fuel oil between Texas and Florida and 20 more destined to enter the same service shortly. Others are chartered to private carriers or turned over to the military service.

"These barges were designed and built specifically for the movement of residual oil," Ernst Holzborn, head of the waterways transport department explained. "They are not adaptable to the transportation of gasoline and were never intended to be employed to carry crude oil."

However Holzborn added, the critical tank car situation has made it necessary to utilize every available means of transportation and a number of the barges not yet in use will be tried out for handling of crude oil on the Mississippi, against the current.

☆

F. E. BABCOCK, landman, is in charge of Union Oil Company of California's office in Jackson, Mississippi, with E. N. McNeeley as geologist.

R. H. GWINNER, formerly senior exploitation engineer for Shell Oil Company, has joined Sunray Oil Corporation as chief engineer.

E. S. VILLINES has resigned from Dowell, Inc., to organize Acid Engineering Company, at Tulsa.

EDWIN U. BLANCHARD has been named chief metallurgist of Tyson Bearing Corporation, Massillon, Ohio. For the past thirteen years, he has occupied a similar place with Bower Roller Bearing Company, of Detroit.

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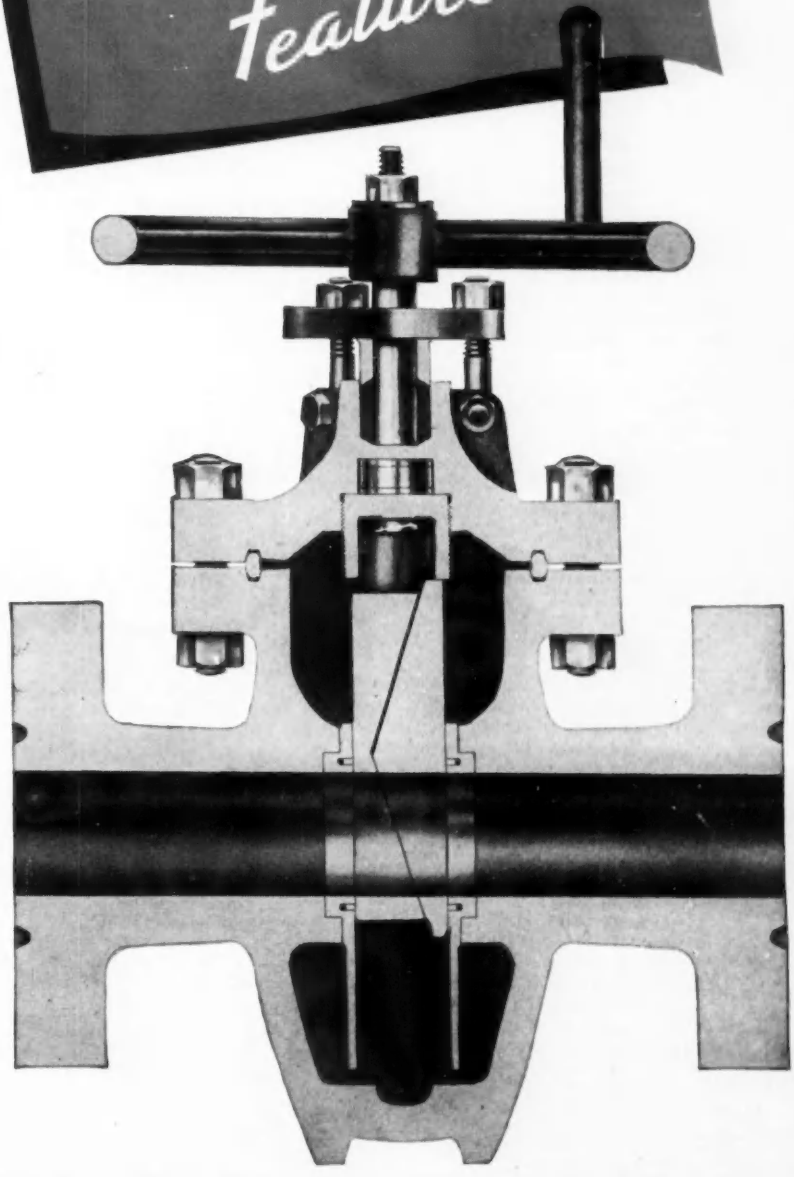
The design of the W-K-M Valve permits a method of lubrication not possible in any other valve. Both the body and bonnet serve as a grease reservoir, containing a surprisingly large amount of grease. The 3" Valve, for example, holds about 6 pounds, enough to last indefinitely.

Every moving part of the valve is constantly in a bath of lubricant. The gate is submerged in grease at each operation, which contributes to the remarkable ease of opening or closing, however, the W-K-M Valve does not depend on grease to make a perfect seal. Such complete lubrication absolutely prevents internal corrosion and reduces friction to a minimum, both of which so often cause valves to leak.

This is another of the several reasons why you may be sure that a W-K-M Valve will always effect a complete shut-off and will always open or close under full rated pressure.



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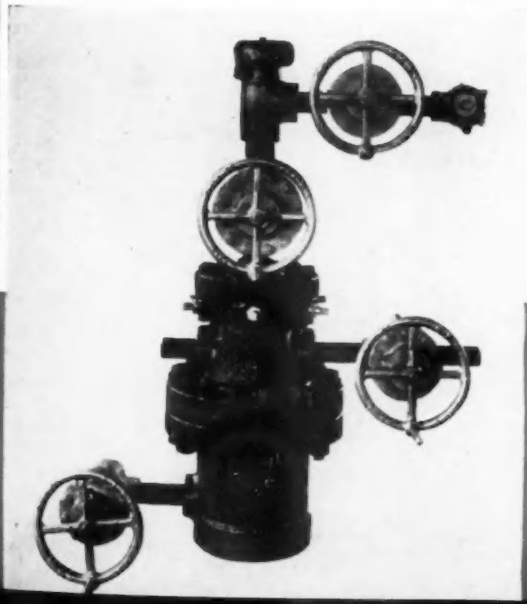

The Valves Make The Tree

. . . but good well head equipment is essential, too! For example, this W-K-M equipped Christmas tree is assembled on a casing head and tubing head manufactured by National Supply Company.

Texas Commission Wants to Know About PAW Liquidation Plans

The Texas Railroad Commission plans to take full control of the oil industry in Texas as soon as the war is over. This announcement was made last week by Commission Chairman Beauford Jester who wrote to Secretary Ickes, asking for a September conference to consider plans for liquidation of PAW at the end of the war emergency.

Jester called to the attention of Administrator Ickes: (1) the desire and intention of the Commission immediately upon the termination of the war to resume entire regulation and conservation of oil and gas in Texas, and (2) willingness of the Commission to cooperate with the Administrator of PAW to liquidate that agency and assist in the relinquishment of its administrative regulation and control of oil and gas and the oil and gas industry in Texas and the other oil producing states after the war.

The Commission chairman believes it is now proper and timely for Ickes to announce plans and process which PAW will follow in returning the regulation of oil and gas to the producing states. The United States Senate recently passed the reconversion act and that act is now being considered by the House, he pointed out.

Ralph K. Davies, Deputy Administrator of PAW in Houston, June 15, assured representatives of the oil industry that the PAW was only a war agency and would not last beyond the war.

Administrator Ickes was asked to supply the Commission with PAW's plans for terminating its regulatory control. If plans for its liquidation have not been formulated, Jester tendered the assistance of the Commission to PAW in immediately formulating such plans.

Jester stated that conservation of oil and gas is properly a function and duty of the states and that Texas has long recognized this. He pointed out that the oil conservation statutes of Texas and their enforcement by the Texas Commission had made Texas oil available for and the most potent factor in the oil production which the United States had to have to meet military and civilian needs during the war.

"The heavy war demand upon the oil fields of Texas has not only reduced and depleted the oil in those reservoirs and reservoir pressures, but in many fields has necessitated there being produced above their maximum rate of production," he declared. "This was willingly and promptly done, however, in order to meet the heavy increasing request for Texas oil certified by PAW each month."

The Texas Commission is beginning studies of plans to meet the changed conditions in the oil and gas industry after the war when the military needs for oil will be sharply reduced.

"Texas and other oil producing states will have many conservation problems to meet," he continued. "We want to be ready to start work immediately on conservation and building up our depleted reservoirs by exercising our regulatory rights to that end. We do not want our administration and handling of these problems to be delayed or impaired by any question about or dispute with any federal agency as to our full and complete right and authority to do these things free of federal control.

"If there are to be any requirements made of the State of Texas or other oil producing states by the PAW or any other federal agency before it relinquishes and returns full regulation and control of oil and gas to the states, these requirements should be made known immediately in order that they may be studied, appraised, and satisfied before the end of the war."

Jester stated that all officers and members of the Interstate Oil Compact Commission and the members of the Texas delegation in Washington would be sent copies of his letter to Administrator Ickes.

"In my opinion, the oil producing states and their regulatory bodies must get busy immediately to regain and assume state control and regulation as soon as the war ends," Jester commented. "It seems proper that the Texas Railroad Commission should take the lead in this."

Oil Activity Noted in All Texas' 254 Counties

All of Texas' 254 counties have land under lease for oil and gas development, the Texas Mid-Continent Oil and Gas Association has pointed out.

Total amount of land under lease exceeds 48,500,000 acres, up 2,000,000 over the preceding year.

On a percentage basis, North Texas leads with 3,256,081 acres or 47 percent of the 6,903,960 acres in that district. The Texas Gulf coast has 6,266,333 acres or 37 percent of its 16,787,587 acres under lease. Southwest Texas, with 13,725,620 acres leased—the largest amount in any region—has 34 percent of its 40,530,776 acres held for development.

The West Texas region comprises 45,317,524 acres of which 12,034,139 or 27 percent has been leased.

Of West Central Texas' 14,111,017 acres, 3,468,537 or 25 percent is leased.

In the Texas Panhandle, 4,745,630 acres or 23 percent of its 20,681,494 acres has been taken.

East Texas, with 24,798,358 acres in its area, has 5,003,660 or 20 percent under lease.

Money paid to Texas farmers, ranchers and other land owners, last year in the form of lease rentals and bonuses exceeded $63,000,000 which, added to $94,000,000 in oil and gas royalty payments to them, was a second money crop.

Kansas Hearing Set

The State Corporation Commission of Kansas will consider market demands and fix state and pool allowables for September at a hearing August 23 in Wichita. The commission will also consider evidence on whether the general rules for the conservation of crude oil and natural gas should be amended.

Texas Allowable Exceeds PAW Mark for September

Texas Railroad Commission has fixed September's net allowable production at 2,311,718 barrels a day or 8718 barrels in excess of the amount recommended by the PAW.

Last week the Petroleum Administrator set a new figure of 2,303,000 barrels daily for September. Since he asked that sour crude remain at 484,000 barrels, the amount recommended for August, the additional 64,000 barrels was to come from sweet crude fields.

To obtain the increase, the Commission allowed Texas fields to produce 2 days, the same number that they produced in August, although September is one day shorter. In addition the Commission ordered increases totaling 22,067 barrels daily for various fields. The largest increase went to the Tom O'Connor Field, up 8655 barrels a day to 63,782 barrels. Yates was increased 7478 barrels to 50,000 barrels a day.

East Texas Field was to be allowed to produce 23 days, which will mean production of 378,133 barrels, 29 barrels a day more than was set for the month of August, when the field was allowed to produce 24 days.

The Commission reported a drop of 3.73 pounds in the average bottom hole pressure in the East Texas oil field during July. H. P. Nichols who asked that the field produce only 23 days in September, also requested amendment of Rule 37 so that some 80 wells in East Texas, shut in because the courts found that they violated commission spacing rules, could be opened.

The East Texas Salt Water Disposal Company reported injection of 337,253 barrels of water daily during July. Well status reports, recently obtained, indicated production of 487,313 barrels per day, along with about 334,000 barrels of oil.

W. S. Morris, vice president and general manager of the company, said that further extension of the system is contemplated and that two new systems have just been completed. He suggested that the Commission invite an industry engineering committee to study the key well pattern in the field.

The comparative figures by Districts are shown in the table below. Set out likewise in an appended table is the shutdown schedule which the Commission has ordered.

DISTRICT NUMBER	Net Allowable Aug. 1	Net Allowable Sept. 1
1 Southwest	24,528	24,932
2 Southwest	157,389	170,333
3 Gulf Coast	535,749	546,458
4 Southwest	212,543	221,413
5 East Central	44,184	45,321
6 East Central	111,649	113,152
East Texas	378,104	378,133
7-B West Central	31,275	32,324
7-C West Central	22,256	23,206
8 West Texas	489,258	508,670
9 North Texas	146,864	146,990
10 Panhandle	117,965	118,465
	2,271,764	2,329,341
Less Under-Production 7.05 percent		164,211
		2,165,030
PAW Crude Oil Certification for September		2,163,000
Texas Over in Crude Oil		2,030
Distillate and Natural Gasoline		146,688
Total for State		2,311,718
Total PAW Certification for Sept.		2,303,000
Texas Over		8,718

U. S. Field Operations

Oklahoma

New Upper Zone Opened In Oklahoma City Pool

A new upper zone has been opened in the Oklahoma City pool with completion of Phillips Petroleum Company's Lowery 12, NE NE NW 12-11n-3w, which flowed 308 barrels of oil in 24 hours from the Pawhuska Conglomerate at 3026-32 feet. This, the field's most northerly Pawhuska sand producer, opens a large area for development when the present Wilcox sand is exhausted. The test was drilled to 5062 feet in basal Tonkawa, plugged back to 4102 feet and perforated at various levels where it recovered salt water until final perforations at the producing zone.

West Edmond: Peppers Refining Company is testing the Haragan sand in McDowell 2, NW SW 28-14n-4w, and the well is making 60 barrels of oil a day by heads through 1-inch choke. Denver Producing & Refining Company extended the pool a half mile east and proved at least 10 additional locations with completion of Sitlinger 1, NW NW 10-13n-4w, which flowed 65 barrels natural in 6 hours from Bois D'Arc lime at 6650-93 feet. Sohio Oil Company's Swope 1, C SE NE 12-14n-5w, Canadian County, set pipe to bottom at 7080 feet, perforated and flowed 215 barrels on a 4-hour test. In Logan County, Phillips et al's Derr 1, C SE SW of 29-15n-4w, was drilling below 4600.

West Moore: Sinclair Prairie Oil Company logged salt water in a Hunton lime test at Theimer 1, NE SE SW 20-10n-3w. The wildcat, which checks low with other field producers, failed in tests of the second Wilcox and Simpson sands and is drilling below 8580 feet to the Arbuckle lime. Mid-Continent Petroleum Company's Harris 1-B, NE NE NW 32-10n-3w, tested salt water in the second Wilcox topped at 8830 feet. Total depth is 8875 feet.

Cleveland County: O. G. Harp of Seminole has a block two and a half miles northeast of the South Moore pool and has made a location in the northeast quarter of 19-10n-2w. Acreage is expected to be contributed by the Mid-Continent, Phillips, Stanolind and British-American companies, which have spreads in the vicinity of the wildcat. In South Moore Mid-Continent's Westermier 2, NE NW SW 26-10n-3w, set and cemented casing at 2156 feet and its Brand 1, NE SE SW 26-10n-3w, is below 3200 feet.

Logan County: Kerlyn Oil Company is testing Green 1, SE SW 36-18n-4w, wildcat near the Crescent Northeast pool, after recovering saturated Layton sand core at 4806-32. Pipe was set on top of the sand with depth at 4855. Continental Oil Company's Caldwell 1, SW NW NE 26-17n-4w, in the Crescent area, was drilling below 4850.

Hughes Coutny: Deep Rock's Harris 1, NW SE SW 21-7n-10e, in the Horns Corner area, tested salt water in the second Cromwell at 3910-18 feet and has been abandoned. Another location has been staked southwest on the Price lease in the SE SE SE 20-7n-10e. In the North Horns Corner area Deep Rock's Kleinwachter 1, NW SE SE 7-7n-10e, is drilling in the Gilcrease sand below 2925 feet.

Garvin County: Sinclair Prairie Oil Company has set pipe and is preparing to test Allred 1, NE NW SE 20-3n-3e, after recovering 1050 feet of oil and 15 feet of oil-cut mud in a 30-minute drill stem test from 1890 to 1909 feet. Edward J. Kubat is preparing to test Dickson 1, NE SW SE 9-3n-1w. On a 35-minute drill stem test at 3422-32 feet operator recovered 70 feet of gas-cut mud. Tests at 3491 feet and at 3521-23 feet recovered 5,000,000 feet of gas and a spray of 46-gravity oil with the tool opened 20 minutes.

Kansas

Pratt County Wildcat Is Apparent Pool Opener

Skelly Oil Company has an apparent pool opener in its Shaw 1, NWc 4-29s-14w, a wildcat 4 miles northwest of Coats in Pratt County. Operator is preparing to take a pumping test after plugging back to 4489-95 feet in the Simpson where two barrels of oil an hour were recovered on swabbing test. The formation at 4489-99 feet was shot with 20 quarts and the hole filled 3500 feet with oil in 12 hours and swabbed 112 barrels of oil in 24 hours. Plug was set at 4440 feet and the zone perforated at 4421-36 feet with no appreciable increase in oil. Perforations were cemented off and the well cleaned out to 4525 feet for the pumping test.

Barber County: Dickey Oil Company's Hargis 1, SW SE 3-31s-14w, 2½ miles northeast of the Skinner Northwest field, a Viola lime producer, is testing a good gas show in the Maquoketa topped at 4399 feet. After perforating at 4394-4417 feet and acidizing with 5500 gallons the wildcat flowed 4,000,000 feet of gas with a spray of oil.

McPherson County: Phillips Petroleum Company's Vogts 1, NEc of 4-20-1w, is drilling below 3540 feet after a drill stem test in Viola lime at 3432-38 feet recovered 1050 feet of oily mud in 30 minutes. The wildcat is 2½ miles west of the Bitikofer pool.

Stafford County: Amerada Petroleum Company is testing an oil show in the Arbuckle in Alpers 1, NW NW NE 25-21s-13w. With pipe set at 3702 feet casing was perforated at 3670-80 feet and the formation given 1000 gallons of acid. The well swabbed about two barrels of fluid an hour, 13 percent of it water. In the Rattlesnake West pool, Barnsdall Oil Company's Matthews 1, NW NE NE 15-24s-14w, is drilling past 3855 feet to test below the Lansing which is the producing horizon in the field.

Ness County: Sinclair Prairie Oil

Wells Completed in the United States in Week Ended August 19, 1944

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS This Week	Last Week	Cumulative This Year	Cumulative Last Year
Alabama													17	2
Arizona													6	
Arkansas	1				1		1	1	3	5	6	6	140	167
California	35	2			37				3	3	40	38	1,285	869
Colorado													14	18
Florida													1	
Georgia									1	1	1		3	2
Illinois	26			12	38		2		10	12	50	59	1,199	1,111
Indiana	2			4	6		1		2	3	9	5	188	159
Iowa													2	3
Kansas	13	2			15				6	6	21	32	1,120	1,037
Kentucky	7			1	8				1	1	9	24	461	210
Louisiana	7	2		5	14				2	2	16	18	471	392
North Louisiana		2		1	3				2	2	5	7	160	170
South Louisiana	7			4	11						11	11	311	222
Michigan												10	391	342
Mississippi	1				1				1	1	2	5	111	57
Missouri												3	21	15
Montana												7	188	147
Nebraska												1	8	29
New Mexico	3	1		2	6						6	10	253	152
New York	15		10		25						25	25	809	739
Ohio	2	7		2	11						11	13	507	558
Oklahoma	25	7		2	34		1		4	5	39	47	1,135	826
Pennsylvania	27	8	15	4	54						54	46	1,819	1,562
Tennessee													9	6
Texas	77	1		25	103	2	3		23	26	131	124	3,800	2,510
E.Tex.Bor. Co.'s													13	16
E. Texas Field													3	5
Rest of E. Texas	1			1	2				1	1	3	7	186	139
North Texas	9			9	18	2	2		8	10	30	21	869	609
W. Central Tex.	8			4	12		1		3	4	16	7	271	228
West Texas	25			2	27				1	1	28	36	996	548
Tex. Panhandle	9	1		1	11						11	3	163	128
G. Coast, Upper	5			2	7						7	18	356	195
G. Coast, Lower	12			4	16				4	4	20	15	591	377
Southwest Texas	8			2	10				4	4	14	12	286	228
S. Central Tex.									2	2	2	5	66	37
West Virginia		15		1	16						16	16	559	387
Wyoming												2	92	77
Total U. S.	241	45	25	58	369	2	8	1	56	65	436	488	14,609	11,377

* Includes distillate wells. † Includes salt water disposal wells.

Company's Elmore 1, wildcat in the NW NE SW 26-17s-22w, 18 miles east of the Aldrich pool, is drilling below 4450 feet. Ft. Riley was topped at 2455 feet, Florence Flint was based at 2590 feet and the Wreford was topped at 2645 feet. The test is on an anticline and is a geophysical prospect.

☆

PAT CARR, secretary of Thompson-Carr, Inc., drilling contractors, has returned to Midland, Texas, district headquarters after retiring from active duty in the Army as a major.

☆

JOE FAUST of Tulsa, formerly associated with the Tulsa Winch Manufacturing Company, is in charge of oil field machinery sales for the Clarence L. Boyd Company.

Illinois Basin

Well in Posey County Shut In for Storage

Ashland Oil and Refining Company et al's Mann 2, NE NW 5-7s-14w, Posey County, five miles west of Mt. Vernon, is shut in for storage, after flowing 200 barrels of oil per day from the Waltersburg sand at 2096 to 2110 feet. Sohio Oil Company et al's Ashworth 1, SE SE NW 16-6s-12w, also in Posey, was fishing for drill pipe at 2697 feet.

Gibson County: The Texas Company was plugging back for a test of the Waltersburg sand in Dunn 8, NE SE of 18-3n-13w, and will perforate at 2064-2104 feet. George W. Boyce's State of Indiana 1, NW NE 23-3s-14w, is drilling below 3186 feet.

Wells County: The Texas Company's Spehler 1, NE SE SW 31-27n-13e, a wildcat, is dry and abandoned at 1162 feet. Redwine et al's Gahman 1, SW SE SW of 8-27n-13e, is drilling below 710 feet.

Pike County: H. C. Detrick was preparing to test the Cyprus sand in Knick 1, wildcat in SE NW NW 8-1s-7w, after underreaming to 1167 feet.

Michigan

Four Direct Offsets Made To Isabella County Test

A diagonal and four direct offsets have been made to Sohio Petroleum Company's Cummings 1, N½ NW NW 33-16n-6w, Coldwater Township, Isabella County, oil discovery with rapid drilling of the area assured.

The discovery well flowed 189 barrels 46-gravity oil through 3/16-inch choke with 475 pound casing and 100 pound tubing pressure from Dundee lime pay at 3694-98 feet.

Mecosta County: Smith Petroleum Company's Buss 1, S½ NW NE 16-16n-7w, semi-wildcat located mile southeast of the Fork field, showed 1200 feet of oil in top Dundee at 3777-3782 feet pointing to a new field in the area. Dry holes on the flank of the Fork pool and structure information appears to offset extension possibilities.

Chapman Oil Company's Telzlaff 1, S½ NW SW 4-15n-9w, Colfax Township wildcat, logged Dundee lime at 3476 feet but had not logged a pay at 3520 feet.

Montcalm County: C. L. Maguire, Inc.'s Blackmere 1, NW SE SW 32-9n-5w, east offset to the Bloomer pool discovery and first follow up test, blew out in the Traverse at 2670 feet during coring operations. Well flowed at steady intervals of 25 minutes at estimated rate of 200 barrels oil daily with attempts to kill it with mud failing over a four-day period.

Ogemaw County: Sun Oil Company logged Dundee lime at 2727 feet and set 6-inch casing on the Holshoe 1, N½ SW SE 17-22n-4e, Logan Township wildcat. Well showed estimated 2½ million feet gas in the Berea sand at 1405-42 feet, and carried show of oil in the Traverse at 1968-75 feet.

Arenac County: Bolger and Roses' State 3, NE SW NW 14-19n-3e, flowed 250 barrels oil per hour from Dundee dolomite at 2890 feet to extend North Adams pool 660 feet beyond its previous proven limits.

Proration: The Deep River pool, Arenac County, has been reduced from 600 to 400 barrels well per day for 40-acre unit wells on the recommendation of P. J. Hoffmaster, state supervisor of wells. The reduction was made on a voluntary basis without a formal order. Hoffmaster has called a general proration hearing for August 30 to review allowables in all prorated fields and in newer areas at the present time exempt.

☆

D. P. GOODALL has been named to the board of the Alberta Petroleum & Natural Gas Conservation Board to succeed Millard D. Kemp. Goodall has been inspection engineer for the board since 1938.

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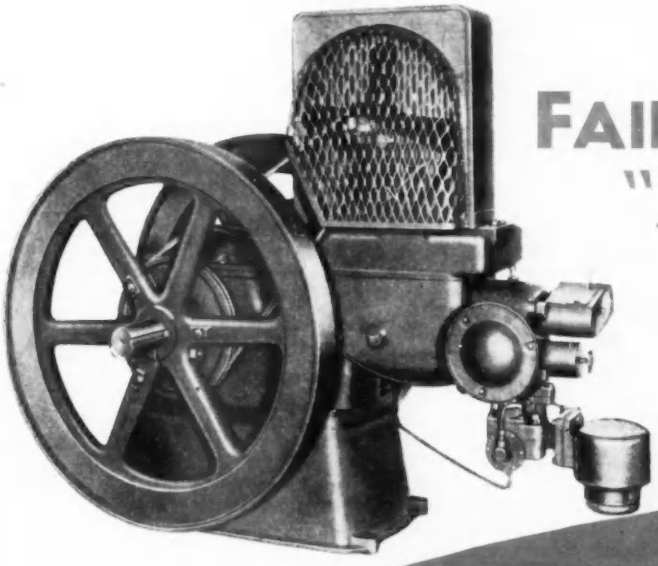

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West Texas

New Strikes Produce Oil Above Average in Quality

Majority of the prospective discoveries and new pay strikes making their appearance in West Texas the past week involve oil above the average for the district in quality. Pecos County promises to add an Ordovician area, while Andrews County set the pace with a deeper pay for the Fullerton structure and possible strikes on 2 additional prospects. Ellenburger production for Crockett County's Todd deep area appears hopeful.

Pecos County: Humble Oil & Refining Company's El Paso State National Bank 1, C NE NE T&St. L. Ry. 7, block 140, 6 miles southeast of the Heiner 2-well Ellenburger pool, has been delayed in landing pipe on bottom at 5449 feet to test because of threatened blowout. Considerable 36-gravity black oil with gas appeared on pits with rotary returns after entering the Ellenburger at 5425 feet with elevation of 2604 feet. Top of San Andres was called at 1700 feet and detrital at 5230 feet. While the Ellenburger is low to the Heiner area, where the pay is some 250 feet in the zone, this new prospect is abnormally high to a 6652-foot Simpson failure, situated 3⅓ miles north by west.

Andrews County: Mid-Continent Petroleum Corporation's University 1-7, 1½ miles southeast of nearest Clear Fork production in the Fullerton field, established a deeper zone in flowing 135 barrels fluid the first hour and 150 barrels the second hour, averaging 4.4 percent bs and acid water, with gas-oil ratio of 500/1, on ¾-inch choke after using 1000 gallons of 15 percent acid solution through perforations at 8460-8600 feet. This outpost failed in the Clear Fork, and nearby lease owners contributed $50,000 towards the drilling of an Ellenburger test, but owner elected to halt at 8955 feet and set pipe at 8941 feet on the strength of the deeper pay possibilities. It was originally identified as the Wolfcamp, with top at 8470 feet, but later listed as the Devonian.

Stanolind Oil & Gas Company's University 1-D, near C SE SW Section 8, Block 11, and 3½ miles west of West Andrews field, will cause spirited bidding at the University of Texas lease sale this month on the strength of having passed up prospective production in the San Andres and Clear Fork. No information has been released on drilling progress, but it is nearing the Ordovician series. The company paid a cash bonus of $900,000 and assumed a 10,000-foot test obligation in bidding for the 4026-acre supporting block last April. A total of 3¼ short sections situated in a row to the north and south and immediately west of the test will be offered at the next sale.

Stanolind Oil & Gas Company's Midland Farms 1-J, 3½ miles east of its recent Midland Farms pool discovery tested water at 4840-76 feet, and will be plugged back to set pipe for production test of nominal oil-saturated lime at 4795-4805 feet. This wildcat entered the Yates at 3090 feet and Grayburg at 4550 feet, being 107 feet low on the latter.

Winkler County: Gulf Oil Corporation's Keystone 46-E, seventh Ellenburger producer and mile southeast extension for the Keystone deep area, registered potential of 2431 barrels of 42.5-gravity, gas-oil ratio 1467/1, based upon last half of 6-hour natural test through ½-inch. This outpost entered Ellenburger at 9250 feet, 17 feet low to discovery, and logged 286-foot zone of prolific gas-distillate pay in entering oil pay at 9536 feet, which prevailed to top of weather igneous rock at 9987 feet without reaching water. The hole is bottomed at 10,005 feet in granite, with open hole below 7-inch casing seat at 9646 feet, affording 451-foot oil zone besides the gas cap. This is the second well carried through the Ellenburger without encountering water.

Sun Oil Company's Keystone 2, located 2 miles north by west of nearest Ellenburger production in Keystone area, was drilling 8764 feet to explore the Ellenburger although structurally low. This outpost is assured of commercial oil production from the Silurian, entered at 8500 feet with first saturation at 8530 feet and top of main porosity at 8558 feet. Drill-stem tests at 8586, 8623 and 8660 feet yielded adequate oil and gas to assure production, although the latter test with packer at 8630 feet yielded sulphur water along with oil and oil- and gas-cut rotary fluid.

Superior Oil Company of California's Wheeler 1, north offset to the Wheeler-Ellenburger discovery, entered Ellenburger at 10,660 feet, 157 feet low, and apparently had not reached water in coring to 10,750 feet, where drill-stem test was pending. Previous tests assured oil production from the Ellenburger. Stanolind Oil & Gas Company and Shell Oil Company's Wheeler 1-B, offsetting production, was drilling 8702 feet, having recovered 300 feet of heavily charged oil and gas-cut mud when tester was used at 8378-8441 feet in Devonian, topped at 8400 feet.

DeKalb Agricultural Association's Mitchell 1, mile north of the North Monahans area, missed the Clear Fork pay and abandoned at 6500 feet. Stanolind Oil & Gas Company's Sealy-Smith 2, mile east outpost, and 2 offsets to its discovery have not made producers.

Crane County: The Texas Company's Hobbs 1-B, southwest offset to its Crossett pool discovery, became the second Devonian producer for the state in flowing 131 barrels initial with gas-oil ratio of 1790/1 through open tubing after using 8000 gallons of acid at 5331-91 feet. Top of Devonian called at 5325 feet.

Crockett County: Amerada Petroleum Corporation's Todd 5-A, northeast edge of the Todd deep area, was awaiting swabbing test of perforations at 6130-6210 feet with favorable outlook for a deeper pay from the Simpson-Ellenburger contact. The regular Crinoidal pay was logged at 5725-5984 feet followed by Simpson to top of Ellenburger at 6142 feet. Oil pay was logged at 6130-6205 feet in the Ordovician.

Failures: Stanolind Oil & Gas Company's Kauffman 1-B, Ward County wildcat and a mile northeast of abandoned producer in Shipley area, entered the San Andres at 3020 feet and Glorietta at 4070 feet with water showing on test at 4500 feet. In Cochran

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County, L. A. Douglas and Al G. Hill's Sherrill 1, PSL Section 10, Block W, quit in sulphur water at 5200 feet in San Andres, topped at 4208 feet. Ray Albaugh and Whitaker Oil Company's Scanlan-Stanolind 1, 3 miles north of east edge of Cedar Lake field, Gaines County, quit in water at 5005 feet, having set pipe on top of porous zone at 4950 feet that proved to be water formation.

North Texas

Montague Well Revives Southwestern Trend

Production trend to the southwest of the Hildreth field, Montague County, was revived through C. H. Murdock et al's Parker 1, NE NE NW E.T. Ry. Section 59, recording potential of 659 barrels of 42-gravity oil, gas-oil ratio 860/1, on ⅜-inch choke. This outpost was treated with 600 gallons of acid through perforations at 6127-6202 feet in Bend, topped at 6120 feet. Production is from lime in contrast to a conglomerate zone in the field proper. Parker 1 is ½-mile west by south of the Gant-Turner sector of the large structure, but is separated from the field proper by a failure. Murdock and associates, involving Chicago capitalists, have completed 16 consecutive producers, mostly outposts, to the north, west and northwest of the field.

Glen Grimes and Joe Schmitt's Barcus 1, block 78, Kaufman County school lands, Montague County wildcat and between shallow pools, set pipe at 3964 feet to try for completion in broken oil sand extending to 4160 feet. It was drilled to brabite at 4478 feet.

Cooke County: Sinclair Prairie Oil Company's Kitchens 1, a half-mile southeast of the Big Indian one-well pool and the first for the county, was abandoned at 6525 feet in Ellenburger, topped at 6476 feet. Winder Sant was entered at 5426 feet and Simpson at 5730 feet. The Texas Company's Rasure 1, Sivels Bend prospect, was drilling shale at 5914 feet. None of the numerous Strawn sands logged to these levels warranted testing.

King County: Gulf Oil Corporation's Masterson 1 was abandoned after testing water in Ellenburger at 6585-6650 feet. Shamrock Oil & Gas Corporation and Roeser-Pendleton's Masterson 1, situated 4½ miles southwest and on separate geophysical prospect, was awaiting orders in lime at 5514 feet.

Clay County: Three consecutive failures immediately east and southeast of the Wynn pool discovery and one on the southwest edge has literally boxed in this prolific Mississippian 5-well pool. Shell Oil Company had previously drilled a northeast offset failure to its discovery. In the Howard one-well Bend pool, Phillips Petroleum Company's Howard-Vera 1-A, twin to a 5826-foot junked well that indicated production from a deeper zone than the discovery, missed both zones and was idle at 6035 feet.

☆

G. W. SEIBERT has been placed in charge of The Buda Company's export oil field division, succeeding A. B. Simonson, and division offices have been moved from 149 Broadway to 253 West 64th Street, New York.

West Central Texas

Stephens County Test Uncovers Flush Area

Mudge Oil Company's W. E. Adams 1, semi-wildcat for Southwestern Stephens County, has uncovered a flush area in developing flow from 3418-22 feet in sand section of the Bend, topped at 3374 feet with elevation of 1357 feet. The well filled with oil and flowed in 12 hours, then required pressure pumps to kill so as to cement 7-inch at 3375 feet. Owner plans to shoot the zone. Adams 1 is in NWc S½ Section 2955, TE&L Company survey, on 1900-acre block, and is 1¼ miles south and same distance northwest of single well stripper pools. Sinclair Prairie Oil Company's Atkins 16-a, near C SE SW S.P. Ry. 19, Block 2, 2-1/3 miles southeast of Brownville pool, nearest Mississippi area, flowed 20 barrels hourly natural with gas volume rated at 2,000,000 feet daily through tubing from perforations at 4245-90 feet in Mississippi, topped at 4241 feet. Humble Oil & Refining Company's Green 1-B, northwest part of county and in sparsely drilled territory, failed to fulfill its production outlook from Bend saturation at 3576-86 feet in showing lots of water after using acid, and was drilling lime at 3760 feet.

East Texas

Bowie's First Producer Has High Oil-Gas Ratio

Barnsdall Oil Company and Sohio Petroleum Company's Heilborn 2, Bowie County's first producer and the first Smackover lime well for Texas, flowed 155 barrels of 41.4-gravity oil with gas-oil ratio of 8050/1 on a ¼-inch choke on official test from liner perforations at 7710-14 feet. Working pressure in tubing was 1300 pounds and 1200 pounds on casing. Owners may try to reduce the high gas-oil ratio to avoid production penalties. This discovery previously showed for a prolific gas-distillate flow from perforations at 7686-96 feet in Smackover, topped at 7657 feet. Development of the area will be on a conservative basis until the trend of production is established, as the well is only 800 feet west of a Smackover failure.

Manziel Field: Production from the Rodessa series appeared more promising when Amerada Petroleum Corporation and Shell Oil Company's Hague 1, Polk Survey, settled to steady output of 58 barrels of 42.5-gravity oil with gas-oil ratio of 877/1 daily on ¼-inch choke. Production is from 27-foot sand zone, topped at 8748 feet, with nominal saturation in sand at 8775-94 and 8824-46 feet. The well is bottomed at 8850 feet, with open hole below 8730 feet. It will be given a light nitro shot. Temperature bomb recorded 234 degrees Fahrenheit at 8650 feet. Oil-saturated porous lime zone at 8449-8506 feet has not been tested.

Shell Oil Company and Sun Oil Company's Herring-Scoggin 1, in the Manziel field was flowing 30 barrels of 56-60 gravity distillate with about 500,000 feet of gas daily on 3/16-inch natural from open hole at 8715-75 feet, having plugged back from 9300 feet in dry Travis Peak. The discovery Rodessa oil well for the area produces from perforations at 8455-8505 feet, and the flow was reduced by multi-acid treatments. Sun Oil Company's Johnston 1, Polk Survey, was plugged at 8511 feet in Rodessa.

Winnsboro Pool: Gulf Oil Corporation's Hornbuckle 1, north outpost that entered the two established oil zones at higher structural position, was drilling dry sandy-shale at 9133 feet to explore the Travis Peak before running pipe for completion in the Rodessa. Amerada Petroleum Corporation's Gambill 1 has derrick up. Magnolia Petroleum Company's McGee 1, wildcat on west side of Wood County, was fishing 8685 feet.

North Louisiana

New Producing Area Is Seen for DeSoto Parish

DeSoto Parish, Louisiana should have a new producing area before long according to indications in A. W. Phillips & G. C. Schoonmaker's Anthony A-1, wildcat on the Spider prospect now being tested. Bottom of the hole is at 5008 feet with a string of 5½-inch casing set one foot off bottom, and operators had perforated casing with 16 shots at 4876-80 feet for a production test when the well immediately started blowing mud out of the hole. It was still giving trouble late in the week, not out of control, but operators are trying to pump enough mud in the hole to allow tubing to be snubbed in. The well showed good gas and distillate indications at this depth while drilling.

Webster Parish: Ohio Oil Company has completed its A. J. Hodges 1 (Acct. 1) in the north Cotton Valley area as a Cotton Valley pay gas-distillate well, flowing 36 barrels of distillate and 830,000 cubic feet of gas daily through a 12/64-inch choke from perforations at 8537-63 feet, gas-oil ratio 23,000-1. Testing continues however, and completion may not be allowed to stand as it is.

Carter Oil Company's N. P. Davis 1, wildcat in Section 33-18-8w, is drilling ahead at 6770 feet in shale, still with no really good showings of oil or gas. A core at 5743-53 feet had shown some porosity and a gas taste, but drill stem test showed salt water.

Lincoln Parish: The Californai Company has taken a block of approximately 7000 acres in the area southwest of Dubach on assignment from Youngblood & Youngblood, adjoining a 3000-acre block previously taken by the company. Acreage lies in Township 19 North, Ranges 3 and 4 West.

There is still no detailed information available on the lower part of the hole in The California Company's Jessie Mae Norris 1, wildcat in Section 15-18n-1w, which is expected to make some kind of a producer from sands between 9000 and 9100 feet. Casing was set at 9117 feet, but latest depth reported was just below 9500 feet where it had cored more gas sand and was drilling ahead.

Building Two Tanks

Humble Pipe Line Company is erecting 2 more 64,000-barrel tanks at its East Texas field station and tank farm south of Longview to receive 10,000 barrels daily of West Texas crude to be consigned to the Big Inch.

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New Mexico

State's Deepest Well Is Drilling at 11,495 Feet

The Texas Company's Cole 2, south offset to its Tonto Pool 3586-foot discovery in Lea County, missed the pay zone to develop a hole full of water at 3596 feet, and was idle at 3614 feet.

Humble Oil & Refining Company's Leonard-Federal 1, Ellenberger project and 8 miles north by west of Ellenberger production in Texas, was drilling sandy shale at 11,495 feet in Simpson. It holds the depth record for the state, and passed up possible production in the 9800-foot Silurian. DeKalb Agricultural Association's Raley 1, ⅞ mile southeast of a Yates sand gas strike by the company in eastern Lea County, missed the gas zone and abandoned at 3315 feet.

Vacuum Field: Trend of production to the west of this field was partly checked through failures recorded by The Texas Company's State 1-A-F and American Republics Corporation's State 2-B abandoned at 4972 feet and 4985 feet, respectively. Devonian Oil Company's State 1, one mile west of the south end of the field, set pipe at 4664 feet after showing oil and gas-cut mud with salty taste when tester was used at 4675-4729 feet.

Eddy County: Sanders Bros. et al's Hultman 1, one mile north of Artesia and deepest test in county, was temporarily abandoned in Pennsylvanian at 6761 feet after unsuccessful attempts to acid at 6552-72 and 6314-6470 feet. A small amount of oil was passed up at these levels.

California

New Production Opened In Seal Beach Area

Important production is being opened through successful exploration in a long undeveloped area of Seal Beach field, Los Angeles Basin. Latest confirmation is provided in completion of Shell Oil Company's Bryant 5, NE NW NE 11-5-12, flowing 1602 barrels daily of 31-gravity clean oil through a ½-inch bean.

The new production is found across a fault that traverses the field lengthwise. For years it was believed the sands on the north side of the fault were sealed off. Finally, in a test on the southeast flank of the main eastern dome, good saturation was found in the deepest of the field's four formations, the McGrath; and successive outpost tries have proved up a considerable extent. Shell's well was bottomed at 7848 feet, and is being produced from sand members from 6993 feet to bottom, with perforations at intervals.

Good character of the pay has been responsible for tests currently being drilled in adjacent territory by The Standard Oil Company, Tide Water Associated Oil Company, the Hellman Estate and Capital Company.

Eight new wildcats or semi-wildcats were started in the state last week, the most interesting of which is a test The Texas Company has undertaken in the Tranquility area, Fresno County.

Contra Costa County: Adding another to the number of natural gas

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wildcat plays now active in northern California, Shell Oil Company has started a test in the Antioch area, located in SW SW 34-2-2.

Kern County: After a period of inactivity, wildcatting on the much-tested Tejon Ranch has made a fresh start, with four projects under way. All are on the west side of the big property. Richfield Oil Corporation is drilling in sections 15 and 34-11-19; and Reserve Oil & Gas Company and E. B. Hall & Company and associated interests in section 33 of the same township.

Reaching out further to determine limits of the new Section 27 Pool, Buena Vista Hills, Standard of California has started a deep test in 1-32-23, 2 miles southeast of the discovery well.

Standard's deep test in Semitropic field, Standard-Fullerton 1, now drilling in shale at 11,375 feet has found markers indicating the well may have to be drilled to at least 15,000 feet to pick up the objective Vedder formation. The same company's Coles Levee deep test has passed the 14,800-foot level.

Construction Progressing On Wyoming Pipe Line

Construction on the Stanolind Pipe Line Company's 240 miles of 12-inch pipe line from the Elk Basin area to the Standard Oil Company of Indiana refinery at Casper, Wyoming, is progressing steadily. The 85-mile section between Casper and Lost Cabin, under construction by Sharman and Allen, has been completed ahead of schedule.

Rocky Mountain Area

Tensleep to Be Tested in The Kirby Creek Area

Union Oil Company of California is testing a showing of oil logged in Madison lime at 1738-1747 feet in its wildcat test of its Farmington block in Teton County, Montana, Greene 1, in NW NW SW of Section 28-25n-3w. The well was drilled to a total depth of 1747 feet and 5½-inch casing cemented 12 feet off bottom. Two other wells are being drilled on this structure.

Mifflin Dome: Carter Oil Company is moving in rotary equipment to test its Mifflin dome acreage, Yellowstone County, Montana, at a location in C SW NW of Section 17-2s-29e.

Kirby Creek: Pacific Western et al have spudded Government 1, SE NE NE of Section 21-43n-92w, which will test the Tensleep on Kirby Creek in Hot Springs County, Wyoming.

Axial Basin: Juniper Drilling Company is moving in equipment for a Sundance test of the Axial Basin structure in Moffat County, Colorado.

Alabama

Two New Wildcats for Escambia County Area

Activity in Escambia County, Alabama, is showing an increase with H. L. Hunt making locations for two new wildcats for that county in addition to the deep test being drilled by Humble Oil & Refining Company.

Humble's Skinner 1, in Section 10-3n-10e, is drilling ahead below 10,252 feet in sand and shale, and to this depth no showings have been found.

H. L. Hunt's S. Foshee & Miller Mill Company will be one of the new wildcats, located in the northeast quarter of Section 15-1n-10e, and will be drilled to the Marine Tuscaloosa. It has already started rigging up. Hunt's other test, also going to the Marine Tuscaloosa, is Harry B. Jones, Tr. 1, located in Section 3-1n-11e, with no operations started yet.

Georgia

The only active well now drilling in Georgia is H. L. Hunt's Metcalf 1, Decatur County, now drilling below 3950 feet in shale. Stanolind's Pullen 1, in Mitchell County, is still shut down at 7484 feet in granite.

Florida

Shutdowns and Fishing Jobs Delay Most Wells

Little progress was noted in wildcat operations in Florida during the past week, since several wells previously active have been shut down, and others are delayed by fishing jobs.

In Collier County, Humble Oil & Refining Company's Gulf Coast Realties 2, deepest well in the state, is still fishing with total depth 12,893 feet in lime.

In Gulf County, Pure Oil Company's C. C. Hopkins 1, Section 21-6s-9e, has completed erecting derrick and is now moving in rotary rig. This wildcat is on

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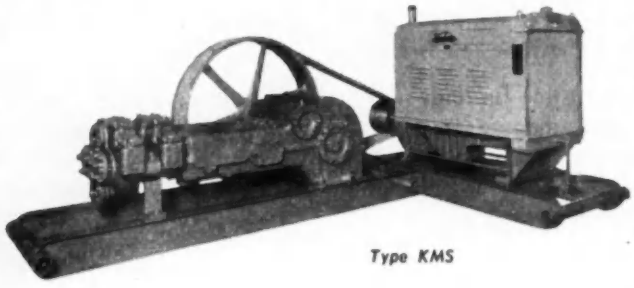

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a large block and is scheduled as a deep test.

Humble Oil & Refining Company's State 1, wildcat in Dade County, delayed at 3810 feet, has reamed the hole, set a string of 13⅜-inch casing at 3816 feet, and is now drilling below 3916 feet in lime.

Mississippi

Lincoln County Wildcat Indicates New Oil Field

The California Company's W. C. Douglas 1, wildcat 6 miles southeast of the town of Brookhaven in Lincoln County, was preparing to perforate late last week, for a series of production tests which are expected to establish a new field for Mississippi. This well cored to approximately 10,600 feet, and set casing to test at least two sands in the Tuscaloosa which were cored and then checked with electric logging survey. It had 20 feet of saturation in sand recovered in core at 10,525-550 feet, then recovered 26 feet more sand below a 20-foot shale break. It was reported that oil in cores was rather high gravity, with no salt water in evidence. Indications are somewhat similar to those in the Cranfield field in Adams County.

Adams County: Pure Oil Company's McDowell 2, wildcat in Section 12-6n-3w, is drilling below 10,061 feet in hard shale with no showings reported encouraging enough for a test.

Humble Oil & Refining Company's Ida Stowers A-1, second test being drilled in the area where the first hole was junked, is now below 3500 feet, drilling ahead under the 3030 feet of surface pipe.

Jefferson Davis County: Sid W. Richardson's C. E. Berry 1, wildcat in Section 24-9n-19w, is starting to test after perforating casing at 7855-80 feet and 8075-8105 feet in the Eutaw and Tuscaloosa formations respectively. On the first test made last week, this well flowed enough gas and distillate from 8120-32 feet to assure the area as a new gas-distillate field, but it is hoped the well might produce crude oil from other sands now being tested.

Wayne County: Humble Oil & Refining Company's GM&ORR B-1, wildcat more than 3 miles southwest of production in the Eucutta field, is drilling ahead at 6661 feet in shale and sand following a drill stem test at 6547-55 feet that showed only 18 pounds surface pressure and recovered salt water. It was reported level with Eucutta field producers on top of the Eutaw formation at 5008 feet, but no showings of oil have been reported above the point where the test was made.

Tulsa Pipe Line Firm Wins Army-Navy Award

The Moorlane Company, Tulsa, a sub-contractor on the Army's portable pipe line, will be presented the Army-Navy "E" award for excellence in war production at special ceremonies September 8, President W. D. Moorer has been advised. The firm manufactures parts for the pipe line which is assembled by Hanlon-Waters, Inc. Officers include S. D. Hunt, president and general manager in charge of production, H. S. Medlin, secretary-treasurer, and H. Krause, superintendent.

Southwest Texas

Edwards Lime Production Opened in West Atascosa

Humble Oil & Refining Company has made location for a second test in the new Charlotte area of Atascosa County, following completion last week of Pruitt 3 to open Edwards lime production in the western part of the county. The new well is Humble's A. M. Lockwood 1, 1508.8 feet from southwest and 330 feet from southeast lines of 100-acre lease in the Antonio Estrada survey, and 3900 feet southwest of the discovery well. The Pruitt 3 made 187.5 barrels of oil daily from 6927 feet. The company apparently plans an active drilling campaign in Atascosa County, having made two new locations in the Imogene field in addition to the two wells now drilling, and may do some wildcatting between the two areas, which lie 13 miles apart. Another wildcat in this county, Hurlburt's Countiss A-1, just east of Hinds townsite, was drilling below 4350 feet.

Brooks County: Sun Oil Company's D. J. Sullivan 1, discovery well for the Dan Sullivan field in the northeastern part of the county, flowed 147.66 barrels of 35.4-gravity oil daily through a 9/64-inch choke, on potential test taken after completion through casing perforations at 8504-17 feet. Since finding this field, Sun has made locations for Sullivan 2, 3, and 4, all within a half mile of the pool opener with the exception of Sullivan 2 which is 2 miles southwest of the discovery, and should soon have a good estimate of the extent of the field.

In the Scott & Hopper field, Humble's latest completion is Scott & Hopper 5, on the north side of field, ¼-mile from production, which is flowing 100.26 barrels of oil daily through a ⅛-inch choke from the 6550-foot sand, showing about 3 percent salt water.

Victoria County: G. W. Strake's Tom O'Connor, Jr. 1, 933 feet northeast of his first well in this new southeast Telferner area, is making 50 barrels of clean oil daily through a ¼-inch choke from 2802-12 feet for the first real commercial producer in the area. Rig is being moved to Tom O'Connor 3 in the same area.

Northern Ordnance, Incorporated's Schaeffer 1, wildcat located 1¼ miles southwest of the discovery well at Mission Valley, has been junked and abandoned at 10,249 feet where it had a bad fishing job. Some showings had previously been reported around 8500 feet. The same operator's Rushaupt 1, 6300 feet northeast of the Mission Valley field, is drilling below 8580 feet after a fishing job. A drill-stem test at 8453-62 feet showed salt water.

San Patricio County: Homer Easterwood et al have made location for F. L.

Asks 10-Acre Spacing

Standard 10-acre spacing for wells producing from the 3400-foot zone in the Holzmark field, Bee County, has been requested. At a hearing before the Texas Railroad Commission last week, Dash Production Company said that the field is narrow, and would include only about 200 acres. For this reason, close spacing was necessary.

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Morris 1, 4 miles south of the town of Taft in Section 53, George H. Paul's subdivision, scheduled to start at once and drill to 6000 feet.

Humble Oil & Refining Company is preparing to complete its Green Estate 2, northeast outpost to the Gregory field, at 9502 feet. The 5½-inch casing was set at 8595 feet and testing is delayed by having to recement.

Zavala County: Humble's Ike T. Pryor 1, Section 44, Pedro Jose Aguirre grant, is reaming after having cored to 4836 feet in shale. A drill-stem test at 4640-48 feet showed a slight blow of gas and 10 feet of oily mud.

Texas Gulf Coast

New-Field Designation Is Likely in Needville Area

Two major outpost wells in the Needville field area, southwestern Fort Bend County, have each added two new producing horizons, and the extension may possibly receive a new-field designation. British American Oil Producing Company, and Walter Goldston, operators of the two wells, are asking that the Texas Railroad Commission allow a field name of "South Needville" for the area which is separated by major faulting from the original field which produces mostly gas from shallow sand around 5200 feet.

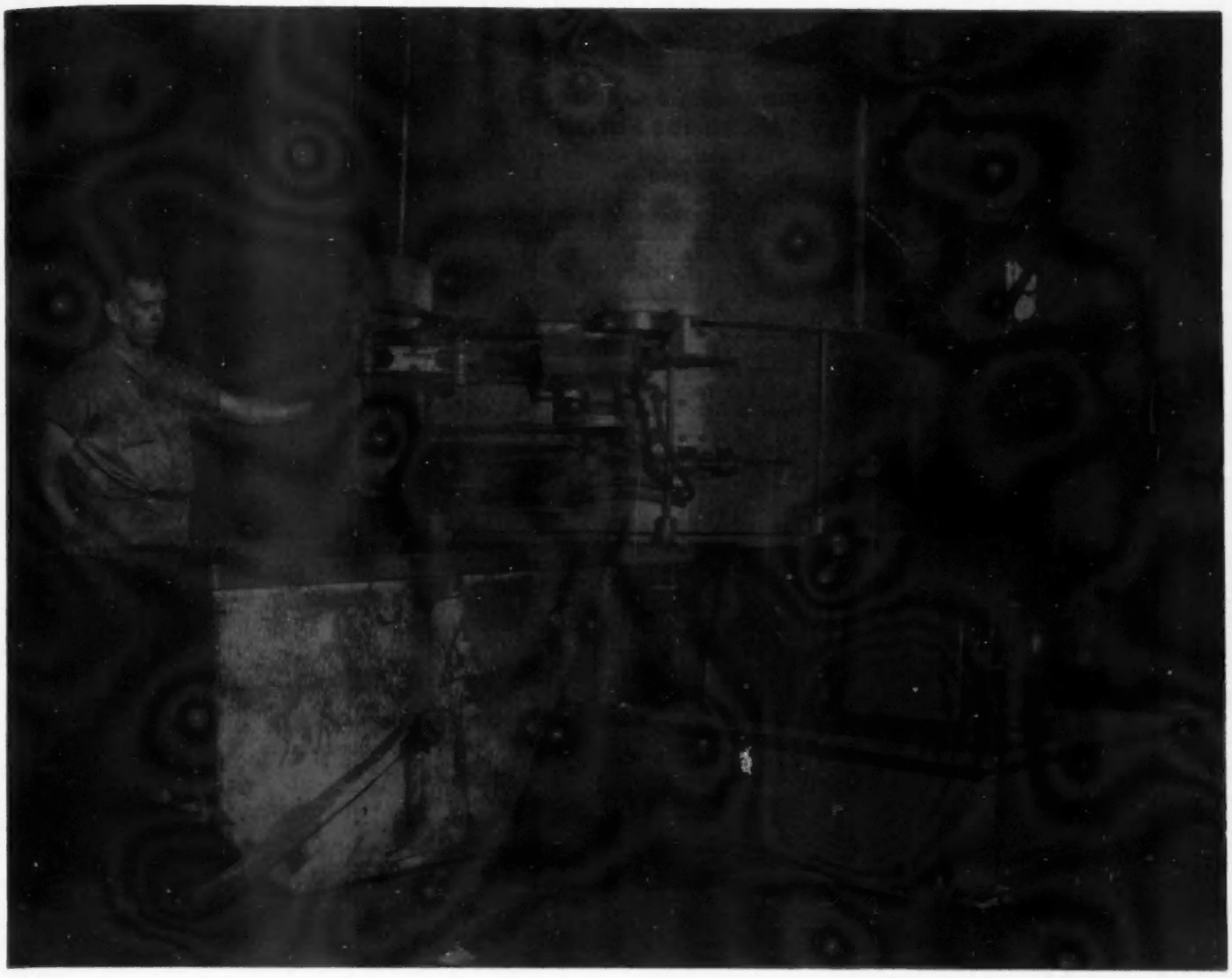
Walter Goldston's E. C. Farmer 1, south of production, drilled to 6706 feet, after having originally been completed in gas sand through casing perforations at 5193-96 feet, has perforated casing at 6288-92 feet and at 6445-49 feet, making tests which showed almost identical production from each sand, flowing at the rate of 77 barrels a day, 29.5-gravity oil, through a 3/32-inch choke with tubing pressure 800 pounds and gas-oil ratio 430-1. Dual completion will be made.

British American Oil Producing Company's Ed Hurta 1, ½ mile southwest of production in the original field, and 2500 feet west of the Goldston well, has established production of 6 barrels an hour from casing perforations at 6547-55 feet in still another sand, but has squeezed them off to complete in an upper sand with casing perforated at 6026-32 feet. Initial gauge showed the well flowing at the rate of 315 barrels of 30-gravity oil daily through a 3/16-inch choke with gas-oil ratio 470-1.

Walter Goldston's J. M. Moore Estate 1, south of his Farmer 1 has been abandoned at 7275 feet.

Jefferson County: Glenn McCarthy, Brown & Wheeler's Hankamer 1, deepest test drilled in the Stowell Field, reached a depth of 12,504 feet before drilling halted to run final electric log. The section below 10,000 feet was found to be mostly shale, with no oil or gas showings in sand streaks, and operators have set a bridge plug inside casing previously landed at 9720 feet. After repairing a leak the well will complete in upper sand, probably around 8700 feet.

Colorado County: Superior Oil Company's Matilda Tait 1-A, Wilcox test just southwest of Altair, is preparing to make a series of tests in Cockfield sands after failure to show encouragement in the Wilcox. Total depth is 9100 feet and a string of casing was landed at 5475 feet for the tests which are to be made from 5100 feet on down



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to just above the casing seat. Superior has now made location for Matilda Tait 1, another wildcat on the same prospect and 2 miles northwest of the town of Altair.

Cities Service Oil Company's Winnie Poole 1, northeast offset to the company's discovery well in the Ramsey field, is preparing to drill below 2625 feet after setting surface casing.

Polk County: Humble Oil & Refining Company's Granbury 33, latest Wilcox sand well in the Livingston field, has apparently cut off the salt water which showed on original production test, and at latest report was flowing 19 barrels hourly through a ¼-inch choke with tubing pressure 440 pounds and casing pressure 1000 pounds. For this test it was plugged back from 7090 feet to 7050 feet with casing perforated above that point. Humble has meanwhile made locations for two new Wilcox tests in this field, Granbury 5 is setting up the rig, and Granbury 25 is moving in rig. Both of these wells are located in Section 11, in the A. Viesca Survey.

Liberty County: William Helis' Hirsch Estate 2, in the Cottonwood area, southeastern part of the county, has been junked following a blowout from 8369 feet. Following the blowout, the well seemed to be trying to crater, but finally sanded up and killed itself, sticking the drill stem.

Jasper County: Humble Oil & Refining Company's Nona Mills Company 1, proposed deep test 1½ miles northeast of Rockland, is drilling below 5490 feet in shale. Humble has asked permit to take this well to 14,000 feet.

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South Louisiana

New Field Opened in St. Charles Parish

The Pure Oil Company has opened a new oil field in southern Louisiana, completing its General American Transpotration Company 1 during the latter part of the week. Total depth is 10,171 feet and the 5½-inch casing was landed at 7919 feet. Plugs were drilled to 7845 feet, but the company has not reported perforation points, beyond the fact it is near the bottom and the well was allowed to flow for several hours after being bronght in, long enough to establish the fact it is an oil well and will open a new field, probably to be known as the Good Hope field, St. Charles Parish, Location is in section 7-12s-8e.

In the Bayou Couba field, Gulf Refining Company's Delta Securities 14 is drilling below 7300 feet. The Texas Company has made its first location in the Bayou Couba area with its Madison Realty Company 1 which will be 1658 feet south and 2992 feet east of the northwest corner of Section 19-15s-22e. The well may be drilled as deep as 13,000 feet. This field is producing from sand at 6500 feet, with one well making oil and salt water from just below 8000 feet.

St. Martin Parish: Continental Oil Company & Standard Oil Company of Kansas will drill another test on the north flank of the St. Martinville dome, where they recently opened a new deep pay 3000 feet north of the nearest shallow production. The new test to be known as the operators' Liquidators 1, still farther out on the north flank of the dome, being 990 feet from south and east lines of 255-acre tract in Sections 80 and 135, 10s-6e.

Stanolind Oil & Gas Company's Bella Nickerson 1, on the west side of the Anse La Butte dome, is below 9847 feet in sand, shale, and lime, still drilling.

Cameron Parish: Humble Oil & Refining Company's State-Rockefeller Preserve 1, wildcat on the Deep Lake prospect in the southeast corner of the parish, is reaming after drilling to 11,130 feet where it is in hard shale.

In the Gum Cove area, Magnolia Petroleum Company's R. A. Moore 4 is a new location 2310 feet from the north and east lines of the southwest quarter of Section 13-12s-12w, to be drilled to the Hackberry sand.

Iberville Parish: Shell Oil Company, Inc. has completed H. H. Gueymard 9, in the St. Gabriel field, making 235 barrels of 33-gravity oil daily through a 14/64-inch choke from casing perforations at 9744-63 feet. Total depth was 9807 feet.

In the new Laurel Ridge field area, Humble Oil & Refining Company's Robinson 1, more than a mile from the discovery well, is drilling surface hole below the 227 feet of conductor pipe.

Repressuring Methods Probed in Oklahoma

Salt water repressuring in the Alluwe oil pool of Nowata County, Oklahoma, is polluting farm wells and springs, according to a statement by Don McBride, chairman of the Oklahoma Planning and Resources Board, who declared the board is investigating repressuring methods and has asked the attorney general, the Oklahoma State Corporation Commission and operators to assist in determining how pollution may be prevented.

McBride asserted that "water has a greater long-run value in the economy of the state than the recovery of a few barrels of oil."

E. W. Hamburg, state water resources engineer, told the board that water was being introduced into the Bartlesville sand in the Alluwe pool and in some places salt water is bubbling up as underground pressure is restored. He told of one instance where two farm wells have already been polluted and after a third well was drilled it also showed brine.

In addition to the Nowata project the Oklahoma State Corporation Commission has authorized water repressuring in the South Oklahoma City pool and the Stroud pool.

WESTERN CANADA

Alberta Foothills Mapped Aerially by Oil Firms

An aerial photographic program, designed to provide by year's end the most detailed and complete picture of the Alberta Foothills ever obtained, began this month. Expected to cost $70,000 and to cover more than 9000 square miles, the program is backed by Imperial Oil Ltd., Shell Oil Company of Canada, McColl-Frontenac Oil Company, Gulf Research & Development Company, Socony-Vacuum Oil of Canada, and Rio Bravo Oil Company (Superior Oil of California).

The aerial mapping will cover all the Foothills Belt from the Montana Border north, with the exception of the areas mapped by the Dominion Geological Survey.

Great Bend Oils Ltd., a new Ontario company with substantial acreage in the Taber-Pinhorn, Marwayne and Vermilion areas of the Alberta Plains, has started its initial venture on its Marwayne block, Great Bend 1, lsd 4 28-52-3w4th, on the Central Plains 18 miles northeast of the Vermilion field and 20 miles northwest of the Lloydminster oil area. Potential oil and gas horizons are looked for in the Lower Cretaceous (around 1500 feet) and the Devonian limestone (around 2050 feet).

Probable commercial production has been encountered at Standard of British Columbia and Nassau Explorations' Taber-Province No. 87-15A wildcat, 3½ miles west of this team's group of 7 producing oil wells, and 1¾ miles northeast of the Major-Taber 1 discovery well. The oil strike was obtained in the Taber sand, between 3204 and 3224 feet, with a small amount of water showing in the base of the sand, and in larger volume in the underlying Ellis sand and Madison lime. Drilled to 3296 feet, the well has plugged back to 3220 feet, set 7-inch casing at the top of the Taber sand, and is being prepared for production test.

Drill-stem tests made while the Taber sand was penetrated showed an influx of crude oil at a rate of about 100 barrels daily. The oil tests between 23 and 24 degrees API, compared with 18-gravity oil at the Standard-Nassau oil wells to the east and about 20-gravity oil at the Major-Taber well to the southwest.

U. S. Exploratory Completions

ARKANSAS WILDCATS

Calhoun County—Failure: Skelly's Helen B. Gaughan 1, 818 s of nl 671 e of wl nw¼ 3-14-16, abnd 2920 ft.

Miller County—Discovery: N. H. Wheeless-Arkla Oil Co.'s White Heirs-Armstrong 1, 660 n 1330 e of nwc 16-20-27, perf 5866-5940 ft, flow 21 bbls distil, 842,000 gas, 660 cp, tbg open, td 6160 ft.

Pope County—Gas Discovery: J. E. Sherrod & J. B. Apperson's Chas. Brinkman 1, 960 s 108 w of sec of nw 15-9n-21w, flowing 5½ min gas, td 2489, pb 1082 ft.

Union County — Failure: Kerlyn Oil Co's Union Sawmill 1, 331.2 w of el 330 n of sl 20-18-13, abnd 4350 ft.

Van Buren County — Failure: Kerlyn Oil Co.'s Lloyd Cooper 1, c ne se 1-11-17, abnd 2857 ft.

CALIFORNIA WILDCATS

Kern County—Failures: Honolulu Oil Corp.'s 53, se se ne 10-32-24, Buena Vista Hills area, pump, no fluid, 78 ft perf 2950 ft Scalez sand streaks, abnd 2950 ft.

Standard of California's Vista Grande S-2, sw nw nw 22-23-24, Buena Vista Hills area, Scalez equivalent 3545 ft, Mulinia 3626 ft, abnd 7026 ft.

J. H. Marion's Austin 2, nw ne nw 28-28-27, Premier area, Chanac sand 2650 ft, abnd 2996 ft.

GEORGIA WILDCAT

Early County—Failure: Mont Warren - Ray Robinson's A. C. Chandler 1, 250 fr sl 968 fr el ld lot 506 26th ld dst, abnd 7523 ft.

ILLINOIS WILDCATS

Clay County—Failure: Duncan's McGee 1, nw sw se 25-5n-6e, abnd 2960 ft.

Effingham County—Failures: Kingwood Oil et al's Schwartz 1, sw nw sw 23-6n-7e, abnd 3072 ft.

Magnolia's Rieman 1, se sw se 2-7n-6e, abnd 2650 ft.

Edwards County—Oil Discovery: Wickham's Schroeder 1, nw ne se 27-2s-14w, pump 55 bbls, McCl 2991-98 ft, td 3004 ft.

Edwards County—Failure: Phillips' Brewster 1, sw nw se 6-3s-10e, abnd 3379 ft.

Jefferson County — Failure: Thompson's Stephens 1, se se ne 30-3s-4e, abnd 3264 ft.

Lawrence County—Failure: Smith et al's Buchanan Consolidated 1, se se nw 13-2n-12w, abnd 1987 ft.

Madison County—Failure: Cassens' Isenberg 1, sw sw nw 13-6n-8w, abnd 1360 ft.

Wabash County—Failure: Morton Drlg.'s Kolb 1, se se sw 6-1s-12w, abnd 2174 ft.

White County—Failure: Gilliam's Storns 1, ne nw sw 2-6s-10e abnd 3149 ft.

White County—Oil Discovery: Sohio's Union Central Life Ins. 1-A, se ne nw 10-7s-10e, pump 40 bbls, Tar Springs 2179-83 ft, td 2183 ft.

Williams County—Failure: Freeman Coal Mining Corp.'s Browning 1, ne nw ne 8-8s-2e, abnd 1979 ft.

INDIANA WILDCATS

Adams County—Failure: Texas Co.'s Aschliman 1, se se se 7-27n-13e, abnd 1165 ft.

Gibson County—Oil Discovery: Cherry & Kidd's Baird 1, sw sw ne 25-3s-12w, pump 163 bbls, McCl 2514-19 ft, td 2527 ft.

Owen County—Failure: Texas Co.'s Fiscus 1, 2-9n-5w, abnd 2516 ft.

KANSAS WILDCATS

Barber County—Failure: Ohio et al's Shriver 1, se se 5-30s-14w, Arb 4657 ft, abnd 4732 ft.

Comanche County—Failure: Phillips' Davis 1, sec 10-33s-16w, Arb 4624 ft, abnd 5603 ft.

Ellis County—Failure: Bridgeport's Streckelein 1-A, sec se 13-14s-18w, abnd 3594 ft.

Ellsworth County — Failure: Texas Co.'s Sauberli 1, nwc 19-17s-8w, Simp 3253 ft, Arb 3258 ft, abnd 3283 ft.

Graham County—Failure: Vickers' Kansas Farm Corp. 1, se se sw 20-8s-21w, Arb 3728 ft, abnd 3758 ft.

Russell County—Failure: Lauck et al's Hendrick 1, se se ne 2-15s-13w, Lans 2971 ft, Cong 3248 ft, Arb 3305 ft, abnd 3333 ft.

KENTUCKY WILDCAT

Daviess County—Failure: Producers Pipeline's Goode 1, 9-N-28, abnd 1936 ft.

NORTH LOUISIANA WILDCAT

Desoto Parish—Failure: Oakes, Easton & Ramsey's Ramsey 2, c ne se 28-13-16w, sso, abnd 5388 ft.

Sabine Parish—Failure: H. D. McDonald's Long Bell Lbr. Co.'s 1, 660 fr sl 980 fr wl 34-9-13w, perf 108 shots 3252-74 ft, salt wtr, sso, td 5778 ft, pb and abnd 3300 ft.

MICHIGAN WILDCATS

Allegan County—Failure: James J. Mc-Gerry's Monteith 1, sw sw se 29-2n-11w, Traverse 1610 ft, abnd 1870 ft.

Arenac County—Failure: Don F. Rayburn's Trumble 1, nw nw nw 5-19n-3e, Dundee 2950 ft, abnd 3062 ft.

Isabella County—Coldwater Oil Discovery: Sohio's Cummings 1, n½ nw nw 33-16n-6w, elev 976 ft, Dundee 3692 ft, pay 3694-98 ft, flow 189 bbls 46-gr 3/16-in, 3698 ft.

Kalkaska County—Failure: McClanahan Oil Co.'s Terpening 1, s½ nw nw 8-26n-5w, Richfield dolomite, abnd 4278 ft.

Newago County—Big Prairie Gas Discovery: Taggart Bros. Co.'s Consumers 1, c se, 16-13n-11w, Stray sand 1031 ft, 4,580,000 ft gas, td 1045 ft.

Osceola County — Failures: Sun's Boyd 1, s½ sw sw 28-17n-8w, Dundee 3847 ft, abnd 3973 ft.

Gordon Oil Co.'s Culver 1, s½ se sw 9-20n-9w, Dundee 3965 ft, Monroe 4048 ft, abnd 4054 ft.

MISSISSIPPI WILDCAT

Greene County—Failure: Atlas O&R-Roeser & Pendleton's Lamar Henington 1, c sw sw 33-4n-5w, elev 174 ft, Wilcox 2282 ft, Eutaw 7011 ft, abnd 7560 ft.

OKLAHOMA WILDCATS

Creek County—Failure: Jackson's Childers 1, se se nw 32-18n-9e, Miss 2925 ft, abnd 3268 ft.

Hughes County—Failure: Deep Rock et al's Sanders 1, ne se se 17-7n-11e, Crom 4173 ft, abnd 4407 ft.

Hughes County — Oil Discovery: Phillips' Meadors 1, se nw se 14-9n-9e, flow 124 bbls 37.1-gr oil, 1,440,000 gas, 3288-3300 ft.

Noble County—Failure: Barnsdall's State 1, sw se nw 13-21n-1w, Lay 3842 ft, abnd 3877 ft.

Okfuskee County—Failure: Okla Oil et al's Jones 1, nw se 12-13n-8e, 2nd Wx 4027 ft, abnd 4047 ft.

WEST TEXAS OUTPOST

Winkler County—North Monahans: DeKalb Agricultural Assn.'s Mitchell 1, c sw se ESL 23, blk B-10, mile n of prod, elev 2802 ft, anhydrite 955 ft, base salt 2400 ft, abnd 6500 ft.

WEST CENTRAL TEXAS WILDCATS

Brown County—Oil Discovery: D. H. Brock et al's H. L. Craven 1, 660 ft snl 1320 ft ewl subdiv 7, Chas. Messer sur No 127, pump 2 bbls 28-gr, 1000 gals acid 845-55 ft.

Jones County—Failures: Clark-Cowden Dr. Corp.-Southwood Oil Co.'s Hovt 1, 304 fr m/s/sl 1130 ft fr m/w/el T&P Ry. 24, blk 15, elev 1728 ft, abnd 2588 ft.

Phillips' Mildred 1, 1020 ft nsl 1600 ft wel Andrew Jones sur A-243, elev 1498 ft, abnd 3400 ft.

Taylor County—Failure: Drilling & Exploration Co.'s Hutson 1, 330 ft out nwc of e-108 ac labor 12, Lge 147, Grimes CSL, elev 1848 ft, top reef lime 3095 ft, abnd 3410 ft.

SOUTHWEST TEXAS WILDCATS

Duval County—Failure: J. W. Gorman's A. Herbst 2, 330 fr wl 1320 fr nl H&GN sur 67 640-ac lse, elev 569 ft, perf 2832-34 ft, flow wtr, sd, 5% oil by heads, abnd 2980 ft.

Jim Hogg County—Failure: Sinclair Prairie's Aurora G. Gallagher 1, 6270 fr nl 2640 fr wl 7400-ac lse, Rafael de la Pena Moritas sur A-245, abnd 3799 ft.

Starr County—Failure: Sun's Juan N. Salinas et al 1, 467 fr nl 3200 fr wl 1112-ac lse, Juris of Reynosa Gr, Yturria area, abnd 4819 ft.

Webb County—Failure: Magnolia's O. G. Sanchez 1, 5352 s of nl 10,924-ac lse 539 sw of nel Joaquin Galan Gr 2292, abnd 5001 ft.

SOUTH CENTRAL TEXAS WILDCATS

Gonzales County—Failure: W. V. Hardin's S. T. Robinson 1, 660 fr sel 3300 fr nel 557.5-ac lse, J. T. Smith sur, abnd 4005 ft.

Guadalupe County—Failure: Wiegand Bros.' Paul & Emma Baumert 1, 330 fr sw&nwl 227-ac lse, Matthew Be Sore sur, abnd 2562 ft.

LOWER TEXAS COAST WILDCATS

Brooks County — Failure: Shell's Guaranty State Bank 1, 660 fr el 1980 fr nl 640-ac lse GC&SF sur 721, elev 243 ft, abnd 6477 ft.

Jim Wells County—Failure: Jay Simmons' Rand Morgan 1, (OWDD), 2772 fr el 578 fr nl 361.5-ac lse, sur 151 Frederick Franks, elev 94 ft, otd 6018 ft, redr & abnd 5655 ft.

Nueces County—Failure: Stanolind's C. W. Kerr 1, 660 fr sl 1677 fr wl lot 10 Wade's Riverside subdvn, J. L. de Herrera Gr, sw of O'Neil field in San Patricio Co., abnd 8020 ft.

Victoria County — Failure: Kingwood Oil Co.'s M. F. Bass 1, 330 fr sw&sel 73-ac lse lot 6, blew out gas and sw, abnd 2957 ft.

EAST TEXAS WILDCAT

Smith County—Failure: Buccaneer Pet. Co.'s Plunk 1, 630 ft nsl 712 ft ewl of 80-ac tr and E. M. Hunt sur, elev 440 ft, Pecan 2715-2910 ft, Austin 4085-4115 ft, Woodbine 4995 ft, abnd 5027 ft.

NORTH TEXAS WILDCATS

Archer County—Failure: Wayne King and S. W. Petre's Threet 1, 200 ft out sec of w-100 of e-150 ac of S. J. Williams sur A-786, abnd 1200 ft.

Clay County — Failure: Nixon Pet. Co.'s Perkins 1, 1275 ft snl 210 ft ewl blk 79, Byers sur, abnd 1845 ft.

Cooke County — Failures: Northern Ordnance's Cox 1, 990 ft nsl 2430 ft wel Wm. Brunk sur A-80, elev 770 ft, Ellenburger 4078 ft, abnd 4870 ft.

Northern Ordnance's Meyers 1, 330 ft snl 1300 ft ewl J. B. Botard sur A-75, elev 786 ft, Ellenburger 3724 ft, abnd 3835 ft.

Benson Bros.' Welch 1, 300 ft wel 1000 ft nsl M. W. Ross sur A-553, abnd 1502 ft.

King County—Failure: Gulf's Masterson 1, 480 ft snl 4130 ft wel sec 1, E. L. Riddle sur A-1207, elev 1777 ft, Ellenburger 6585 ft, abnd 6650 ft.

Throckmorton County—Failure: R. H. Roark et al's Brown 1, 2420 ft out nec TE&L Co. sec 1618, abnd 705 ft.

Young County—Failure: Rathke Oil Co.'s Johnson 1-B, 660 ft ewl 2580 ft nsl of H. F. Young sur A-1286, Palo Pinto 1185 ft, abnd 1728 ft.

NORTH TEXAS OUTPOST

Montague County—Hildreth Extension: C. H. Murdick et al's S. W. Heard 1, 1980 ft nsl 330 ft wel J. Castleberry sur A-131, 1¼ mi nw extension, elev 1005 ft, Bend 6006 ft, Barnett 6310 ft, flow 448 bbls 41-gr, ⅜-in, natural, perf 5965-87 ft, td 6323 ft.

NORTH TEXAS NEW PAY TEST

King County—Bateman Discovery: Humble's Bateman Trust 4, 4375 ft nsl 467 ft ewl sec 101, blk A, J. B. Rector sur, offset 3600-ft prod, elev 1745 ft, lime 3661 ft, Mississippi 5900 ft, Cambrian 6110 ft, Hickory 6285 ft, granite 6380 ft, pump 121 bbls 35-gr, 4000 gals acid, perforations 5325-60 ft, td 6388 ft.

WESTERN CANADA WILDCATS

South Alberta Plains—Pinhorn Dome: McColl-Frontenac Oil Co.'s No 9-17-1-8, lsd 9 17-1-8w4th, abnd 3320 ft.

Conrad: Lion Oil's No 1, lsd 8 22-7-15w4th, oil saturation in tight Taber sd 2818-2898 ft, wtr and sso in Ellis 2991-2995 ft, wtr in Madison 2995-3001 ft, abnd 3001 ft.

Taber: Universal Petroleums Ltd.'s No. 2, lsd 3 24-8-17w4th, abnd 3333 ft.

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GEORGE S. HEYER of Houston, president and an organizer of General Crude Oil Company, died in Mexico City August 14, following a heart attack suffered while vacationing there. A naval ensign in World War I, he joined Moody-Seagraves Company in 1928, and was later connected with Cranfill-Reynolds Company. In 1931 he assisted in organizing the General Crude Oil Company and became its first president. Prominent in civic affairs, he was appointed to the advisory board of the Reconstruction Finance Committee and served as civilian member of the Naval Manpower Committee.

LEE HAGER, 70, of Houston, president of Federal Royalty Company, died at his office in Houston August 11. Educated at Harvard, and a veteran of the Spanish American war, he became interested in petroleum geology, being connected with Guffy Petroleum Company, predecessor of Gulf Oil Corporation. He discovered sulphur and oil deposits along the Gulf Coast, including Sulphur Dome, Louisiana, Hager-Martin dome, and Orange field, and others in West Texas. He was one of the oldest living members of the American Institute of Mining and Metallurgical Engineers.

FRED SAGER, 74, died in Tulsa August 10. A co-inventor of the Haldenburg underreamer, he entered the oil business more than 40 years ago as a drilling contractor in Kansas, Oklahoma and Texas.

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■ FOR SALE: Two 75 KVA Westinghouse Electric Transformers; One 50 KVA General Electric Transformer, used six months, and in excellent condition. B. M. Jamison, Angleton, Texas.

■ FOR SALE: Board Road Lumber slightly used 200,000 board feet in Fig Ridge Field, Chambers County. V. W. Frost, 1644 Mellie Esperson Building, Houston, Texas.

■ FOR SALE: One 15 KW, 110-Volt, DC Burke Generator, direct connected to 6 x 6 Vertical American Blower Steam Engine; One 50-lb. Smith Acetylene Gas Generator. Sintes Sales Engineers, 730 Girod Street, New Orleans, Louisiana.

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One 33' x 6¼" drill collar, streamlined, 5 9/16" boxes, prewar.
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Two 108-H.P., 275-W.P. Lucey boilers, pass inspection, ready for service. Large stock blowout preventers, any size, Regen, Cameron and Shaffer. Large stock shale shakers, Link Belt, W.K.M. and Symons.

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Oklahoma City Geological Group Names Committees

Oklahoma City Geological Society announced the following standing committees: Ralph Fillmore, Don Hyatt and Claude V. Barrow, membership; Theodore G. Glass, John Sandford and Irving Perrine, program; Hubert Bale, Richard Camp and Roland Laughlin, entertainment. Members of the executive board include E. G. (Ty) Dahlgren, president of the OCGS, C. E. Hamilton, I. Curtis Hicks, H. Travis Brown and Glass.

☆

JACK T. SCOTT, 38, landman for Pure Oil Company in West Texas, died July 24 of a heart attack while visiting the home of his parents at Floydada, Texas.

H. EDWARD MANVILLE, SR., former chairman of the board of directors of Johns-Manville Corporation, New York, died June 27. He was the son of the founder of the original company bearing Manville name, and for 50 years he served the company in many capacities, including the presidency and chairmanship of the board of directors.

S. A. GROGAN, 54, geologist for Gulf Oil Corporation died August 9 in Houston. A graduate of the University of Texas, he became associated with Gulf in May, 1913, at Beaumont, and had been with the company since. In addition to a number of Masonic orders, he was a member of the American Association of Petroleum Geologists, Houston Geological Society, and National Geographic Society.

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■ Sales Engineer wanted by old established manufacturer selling to oil, gas and water industry. Permanent salary position. Must be hard worker. Houston headquarters. Give age, experience, references, salary desired, etc. Address: Box 76, c/o The Oil Weekly, Houston, Texas.

■ Assistant Superintendent Drilling and Operating: Either graduate Petroleum Engineer with drilling experience or graduate Mechanical Engineer with drilling experience. Age between 33 and 45. Give all personal data, transcript of college credits, and salary desired or application will not be considered. Address: Box 79, c/o The Oil Weekly, Houston, Texas.

ADVERTISING RATES

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Regular classified advertisements for this special section, set in type this size without border, take flat rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

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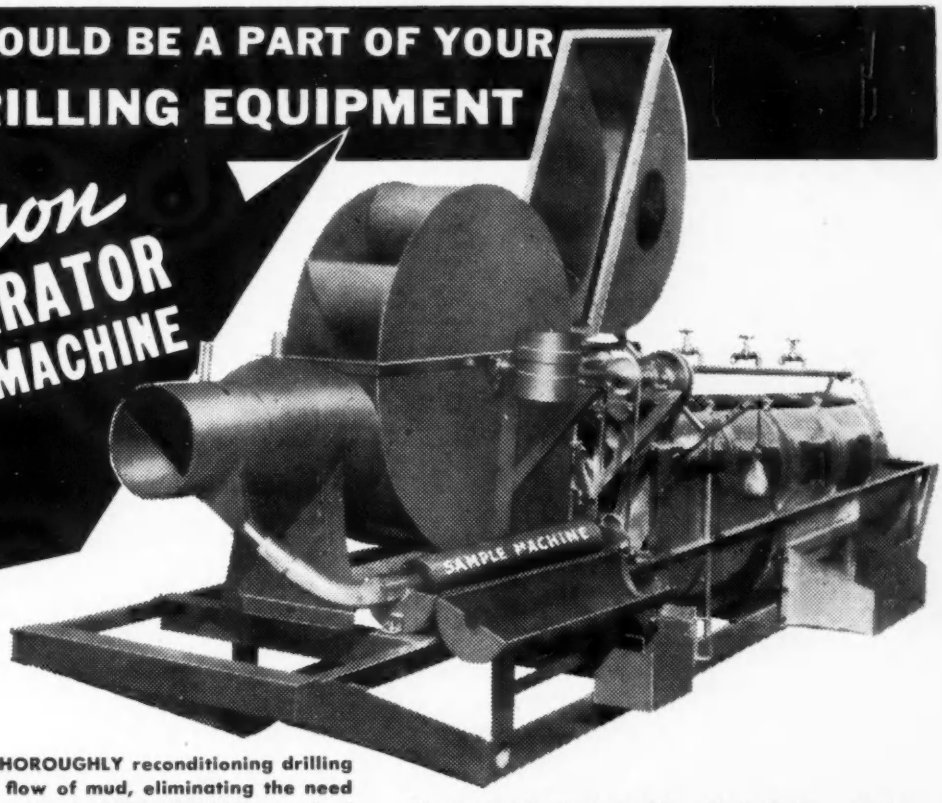

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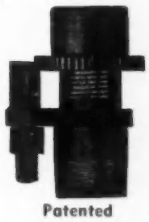

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To string up tools: simply pass babbitted, standard 1⅝" O.D. Rope Socket through the Packing Nut, Body and Lubricator, if one is used; make up the tools on the Rope Socket and then place the set of Rubber Seats, Line Rubbers and Brass Bushings around the line in the Body and screw the Packing Nut in place. These Line Wipers are individually tested at 3,000 pounds, cold water pressure.

Complete instructions are furnished with each tool. Catalog with detailed information will be furnished promptly when requested.

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United States Wildcat Starts

ALABAMA

Escambia County: Hunt Oil Co.'s S. Foshee & T. R. Miller Mill Co. 1, 498 fr nl 1816 fr el 15-1n-10e, rur.

Hunt Oil Co.'s Harry Jones 1, 146 w 170 s of c se se 3-1n-11e, lcn.

ARKANSAS

Union County: Kerlyn Oil Co.'s Saw 1, c nw sw ne 17-17-11, lcn.

McAlester Fuel Co.'s Wilson-McRae 1, 330 n&e of swc nw se sw 28-16-18, lcn.

CALIFORNIA

Fresno County: Seaboard Oil Co.'s Seaboard-Superior 5-5, ne ne se 5-15-17, nw Raisin City area, mim.

Texas Co.'s California Cotton 36-23, sw ne sw 23-16-15, Tranquility area, lcn.

Kern County: E. B. Hall & Co.'s Hunt 1, nw sw ne 28-27-27, McVan area, dr 1600 ft.

Continental's KCL G-2, se nw ne 4-30-26, McClung area, lcn.

Richfield Oil Corp.'s Tejon B 55-34, ne sw ne 34-11-19, Tejon Ranch, mim.

Los Angeles County: Hacienda Oil Co.'s 1, ne ne nw 27-2-10, Puente area, lcn.

Ventura County: Associated Piping & Engineering Co.'s 1, ne nw nw 5-15-19, Sespe area, lcn.

Volunteer Petroleum Co.'s Hilltop 2, sw se se 7-4-21, Ojai area, mim.

ILLINOIS

Clay County: Pure's Chaffin 1-C sw sw sw 1-2n-8e, lcn.

Hamilton County: Rudy et al's Clark 1, nw nw sw 32-3s-5e, mim.

Madison County: Kesl's Whittmore Hrs. 1, sw sw 25-5n-6w, lcn.

Washington County: Ria's Bonaszek 1, sw nw ne 27-3s-2w, dr 157 ft.

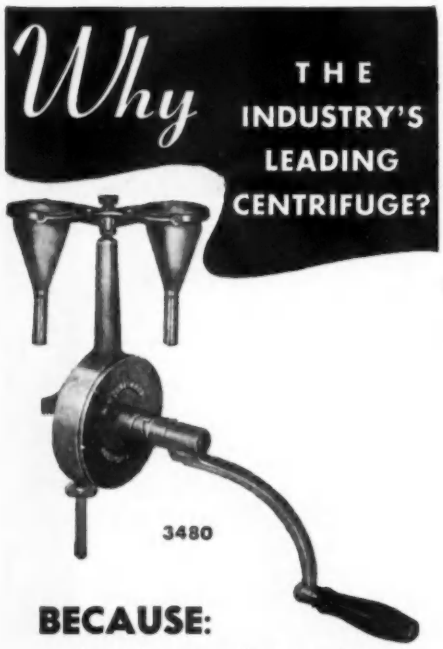
White County: Great Lakes' Tuley 1, sw nw sw 7-7s-10e, dr 236 ft.

INDIANA

Perry County: Larkin's Luecke 1, ne sw sw 31-5s-2w, lcn.

Posey County: Ryan Oil's Reich 1, sw sw ne 27-5s-12w, lcn.

Sullivan County: Texas Co.'s Phegley 1, sw ne nw 14-6n-10w, lcn.



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HOUSTON U·S·A TEXAS

KANSAS

Barber County: Texas Co.'s Groendycke 1, sw sw se 27-33s-12w, lcn.

Barton County: Western Pet. Co.'s Schneweiss 1, nw nw sw 33-16s-12w, woc.

Brown County: Gall's Livengood 1, ne nw sw 3-1s-15e, lcn.

Gove County: Phillips' Fick 1, ne ne sw 24-15s-31w, lcn.

Graham County: Texas Co.'s Voss 1, sw sw se 9-6s-21w, lcn.

Reno County: Stanolind's Goertzen 1, swc 12-22s-5w, lcn.

Russell County: Jackson's Ritter 1, sw ne 11-15s-2w, lcn.

Sedgwick County: Stanolind's Marx 1, nw ne nw 10-27s-4w, lcn.

Stanton County: Stanolind's Col-Mac 1, c of sec 32-30s-39w, lcn.

Woodson County: Reinhardt et al's Strockebrand 1, sec 27-23s-15e, rum.

KENTUCKY

Hart County: Farmer et al's Wells 1, 7-J-42, dr 125 ft.

SOUTH LOUISIANA

Iberia Parish: Pure's L. L. Trahan 1, 2410 n 2155 e of swc 9-12s-6e, lcn 12,000-ft test.

NORTH LOUISIANA

Rapides Parish: Claude Morgan's Irene Wettermark 1, 1818 s 21° e fr m/wly/c 730 n 60° e to 24-5n-3w, lcn 6500-ft test.

MISSISSIPPI

Copiah County: Joe B. White-Big West Drlg. Co.'s Magnolia Textiles 1, c se se 8-9n-7e, lcn.

Jefferson Davis County: Sinclair Wyoming's Newman Lbr. Co. 3, c se nw 32-6n-16w, lcn.

Madison County: Carter Oil Co.'s Maude Castens 1, 660 fr sl 650 fr wl ne¼ 13-11n-3e, elev 344 ft, dr 2885 ft.

NEW MEXICO

Eddy County: Ross-Luck & Cunningham's Cowan 1, 3630 ft nsl 2310 ft wel 3-21s-28e, lcn.

Lea County: Magnolia's P. E. Haralson-Federal 1, c se sw 18-26s-38e, lcn 4500-ft test.

Texas Co.'s State 1-A-G, c sw nw 29-16s-34e, lcn 5500-ft San Andres test.

Tide Water's State 1-N, c nw sw 19-22s-35e, lcn 4000-ft test.

OKLAHOMA

Lincoln County: Stanolind's Boss 1, sw se se 27-13n-3e, c&p.

Seminole County: Kerlyn Oil's Goss 1, ne nw 35-8n-5e, spud.

WEST TEXAS

Borden County: Texas Co.'s W. D. Johnson 1, c nw nw T&P Ry. 41, blk 32, T-4-N, mim for 7500-ft Clear Fork test.

Crockett County: Standard of Texas' University 1, lse M-28,707, c sw ne sec 25, blk 12, mim for 3500-ft cable test.

Howard County: Herman & Geo. R. Brown-J. C. Karcher's Caldwell 1-a, sw nw ne T&P Ry. 32, blk 32, T-3-N, mim for 6000-ft cable test.

Lubbock County: Seaboard Oil Co.'s Cravens 1, c sw sw L&SV Ry. 16, blk D, lcn 5500-ft Clear Fork test.

WEST TEXAS OUTPOST TEST

Andrews County: Magnolia's B. B. Ralph 1-A, c nw se PSL 12, blk A-37, mile west Fullerton field, mim for 11,000-ft Ellenburger test.

WEST CENTRAL TEXAS

Eastland County: Wm. S. Kelly et al's W. C. Yeager 1, ne se nw sec 5, BBB&C Ry. sur, lcn 3500-ft cable test.

Jones County: Bell Oils' Beaty-Akin 2, 330 ft out swc of 255½-ac tr in se part sec 44, Deaf & Dumb Asylum Lands, lcn 3400-ft rotary test.

Shackelford County: Fortex Oil Corp.'s Gladys Smalley 1, 1980 ft nsl 1600 ft ewl E. T. Ry. sec 13, lcn 1100-ft cable test.

Stephens County: Orion A. Daniel et al's G. G. Harrison 1, 467 ft out swc of J. C. Mercer sur A-2324, lcn 3600-ft rotary Bend test.

NORTH TEXAS

Clay County: W. A. Baber et al's D. E. Bentley 1, 1550 ft snl 1425 ft ewl blk 51, Specht-McCutchen sur, lcn 1400-ft test.

Cooke County: Texas Co.'s Tony Trubenbach 40, (deep pay test) 810 ft snl 1156 ft wel of 203-ac tr, J. Clark sur, A-194, Trubenbach shallow field, lcn 4500-ft Ellenburger test.

Foard County: Texas Co.'s T. N. Bell 1, 1450 ft snl 660 ft ewl of 525-ac tr in se part A. Luce sur, lcn 6000-ft test.

Knox County: C. W. & C. L. Snoddy's A. L. Haskins 1, 200 ft out swc e-160 ac of w½ BBB&C Ry. sec 216, blk A, lcn 1800-ft test.

EAST TEXAS BORDER COUNTIES

Shelby County: Buffington & Smith's Pickering 1, 1200 e of wl 4300 n of sl J. W. Crane sur, 3 mi ne Shelbyville, dr 100 ft.

EAST TEXAS

Ellis County: Lesco's R. S. LeSage 1, 555 ft fr nwl 3372 ft fr swl of E. D. Harrison sur, 3½ mi e by n Pluto, lcn 4000-ft test.

SOUTH CENTRAL TEXAS

Kerr County: Humble's W. R. Schreiner 1, 660 fr nwl 3000 fr nel TCRR sur 1677, 660 fr sl BS&F sur 13, 3000 fr wl BS&F sur 11 on 65,000-ac lse, mir.

Zavala County: Texas Co.'s C. Van Cleve 1, 466 fr el 466 fr sl 1804-ac lse GC&SF sur sect 11, lcn 5000-ft test.

SOUTHWEST TEXAS

Duval County: Cox, O'Neil, Yoakum & Hamon's Clara Driscoll 1, 330 fr n&el sec 57 3120-ac lse, Santa Rosalia Rafael Ramirez sur A-476, elev 525 ft, sd 1900 ft.

J. W. Gorman's A. Herbst 4, 330 fr el 330 fr sly/nl SA&MG sur 71, ru.

Texon Royalty Co. et al's D. C. Chapa 1, 467 fr sl 933 fr el 86-ac lse, El Mesquite Gr, lcn.

Starr County: Sun's E. G. Esslinger 1, 1335 n at ra to RR 758 fr el 386-ac lse 2800 fr m/sly/nl 758 fr el tr 82, Pedro Longoria sur, elev 166 ft, dk.

Sun's Annie Reilly Est. A-1, 767 fr wl 3000 fr nl 332-ac lse, porc 97, lcn 5500-ft test or top of Jackson.

T. E. Stephens' M. Hinojosa et al 5, 1401 fr nl 4767-ac lse in porcs 109-111, in porc 111, lcn 2500-ft test.

LOWER TEXAS GULF COAST

Bee County: Smith & Storey's C. T. Griffin 1, 330 fr swl 710 fr sel 140.7-ac tr and Maria B. Kivlin sur, dk.

Brooks County: Shell's Guaranty State Bank 2, 1220 fr wl 693 fr sl GC&SF sur 721 and of 640-ac lse 3600 n of Kelsey prodn, elev 241 ft, mir.

Goliad County: Barnsdall Oil Co.'s Albin Metz et al 1, 467 fr nw&swl 292-ac lse, swl being Manahuila Creek, Jas. Cunningham sur A-84, lcn 8500-ft test.

Victoria County: Gulf's Mary Simmons 1, 2234.8 fr nwl 6177-ac lse, Santiago Serna sur A-106 4500 nely fr San Antonio River, elev 50 ft, lcn 8000-ft test.

Ray Reynolds' J. W. Ragsdale 1, 1310 fr nwl 730 fr nel 1000-ac lse, Jas. McConnaughey sur A-262, lcn 5500-ft test.

G. W. Strake's Tom O'Connor Jr. et al 3, 700 fr wl 1700 fr sl T&NO sur 4, Teleferner area, lcn 5000-ft test.

TEXAS GULF COAST

Chambers County: Gulf's State-Galveston Bay Lse No 28469-1, start sec sect 41 Galveston Bay go 642 nw alg swl th 1144.6 ne at ra to bottom hole lcn; start sec sect 41 go 278.9 nw alg swl th ne 1374.7 at ra to surf lcn on J. E. Jackson lnd in Roberts sur A-21, bottom hole 330 wsw of surf lcn, 9500-ft test.

Colorado County: W. Stewart Boyle-John Mayo's R. S. Stephens 1, 660 fr n&e of s 40-ac of 80-ac lse, SA&MG sur, lcn 7000-ft test.

Fayette County: Phillips' Karl Rietz 1, start swc 155-ac lse, Jas. Robinson Lge go 3500 e alg sl lse 330 n at ra to lcn, Cistern area, elev 390 ft, lcn 3000-ft test.

Ft. Bend County: Magnolia's Dew B-1, 330 fr s&wl "B" lse, D. Bright sur, Sugarland area, lcn 9000-ft test.

Trinity County: W. Stewart Boyle's James Thompson 1, 467 fr s&wl 74-ac lse, Jas. Ward sur, lcn 6700-ft test.

MICHIGAN

Allegan County: Muskegon Dev. Co.'s Pegg 1, se sw sw 25-3n-14w, lcn.

Isabella County: Allegan Pipe & Supply Co.'s Duffy 1, se ne se 27-13n-4w, dr.

Midland County: Wicklund Dev. Co.'s Wetherell 1, nw sw ne 15-14n-1e, lcn.

Tuscola County: Shell's Woidan 1, nw nw nw 16-13n-11e, lcn.

WESTERN CANADA

South Alberta Plains—Conrad: California-Standard Co.'s Conrad-Province 55-5A, lsd 11 5-6-15w4th, ru.

Central Alberta Plains—Marwayne: Great Bend Oils' No. 1 se lsd 4 27-52-3w4th ru.

Vermilion: Vermilion Consolidated Oils' No. 15, nw lsd 15 20-50-5w4th, dr 2066 ft.

Innisfree: A. E. Verner's Verner-Canusa No. 1, ne lsd 4 15-51-11w4th, ru.

South Alberta Plains — Taber: Universal Petroleum's No. 3, sw lsd 12 17-9-17w4th, lcn.

☆

J. K. HUFENDICK, formerly Illinois superintendent for The Texas Company, has been transferred to South America and is succeeded by A. L. Kraft, field foreman at Salem, Illinois. The district includes Illinois, Indiana and Kentucky.

Squeaks from the Bull Wheel

No Experience

Do you believe kissing is unhealthy?
I don't know, you see I've never—
Never been kissed.
Never been ill.

Order of the Day

To his negro company the black first sergeant spoke dire words:

"From now on, when I blows dis yere whistle, ah wants to see a huge, impenetrable cloud o' dust come boilin' outa them tents, and when the dust clears away ah wants to find three rows of statues."

Handicap

"I know the secret of popularity."
"So do I, but mother says I musn't."

One Specification

"What kind of a girl do you prefer?"
"Oh, just one ready maid."

Widow's Truthful Tribute

"How would just a simple 'Gone Home' do for an inscription?"

"I guess that will be all right; it was always the last place he ever went."

That Feeling

He: "Whenever I make a speech I don't know what to do with my hands."

She: "Are you making a speech now?"

Crazy

"I have a mad, insane desire to crush you in my arms."

"Now you're talking sense."

No Names

I'm feeling a little frail tonight.
Will you stop calling me that!

Retired

An old sailor had retired from the service. Each morning a chubby youngster knocked on his door, went in, then came out again. After this had gone on for several weeks, the curosity of the neighbors was aroused.

"Tell me," said one to the boy, "why do you visit the old sailor every morning?"

"Well, he gives me 10 cents if I say, 'The C. O. wants to see you immediately'."

"Yeah? And what does he say?"

"He yells, 'Tell the C. O. to go to hell!'"

Pome

Virginia had a little quart
Of cider, hard as steel,
And everywhere she went 'twas sport
To watch Virginia reel.

Coincidence

"Did you lose a dollar?" asked the small boy.

"Why, yes, I believe I did," exclaimed the stranger. "Did you find one?"

"Oh, no, I just want to find out how many have been lost today. Yours makes 55."

Nomads' "Wing Ding"

The fifth annual Wing Ding was held by the Los Angeles Chapter of Nomads recently, at the Riviera Country Club. A golf tournament attracted about 100 Nomads and guests. In the evening, after the dinner at which 286 members and guests were present, an elaborate stage show climaxed the affair.

☆

JACK SUTHERLIN, manager of the Dowell Inc. Borger district, has been named Fort Worth district manager, succeeding F. R. Holland, resigned. Sutherlin will be succeded by Nathan Webb, now the manager of the Nocona Station in Dowell's Fort Worth district.

EDWARD R. GALVIN has been elected president of Tyson Bearing Corporation, Massillon, Ohio, replacing John K. Colgate who becomes chairman of the board. Earl R. Earnest, executive vice-president, has been elected a director. Galvin formerly was general sales manager for R. G. LeTourneau, Inc., and for 11 years was sales manager for Caterpillar Tractor Company, both of Peoria, Illinois.

OIL PRODUCING FORMS

Form 265—Report of Material Received, 50 duplicate sets to book, size 5½ x 8½
Form 267—Pipe Tally—50 duplicate sets to book, size 4¼ x 8½
Form 280—Daily Drilling Report—33 triplicate sets to book, size 5½ x 8½
Form 282—Three Tour Drilling Report with Pipe Tally, size 8½ x 11—33 triplicate drilling sets, 10 duplicate pipe Tally sets to book
Form 290—Pipe Line Run Tickets—33 triplicate sets to book, size 4½ x 7½

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BE SURE TO CHECK THE
Trading Post Section
PAGE 82 OF THIS ISSUE

Notes for the Equipment Buyer and User

Hole-Cutting Tool

BRUNO TOOLS

Bruno Tools, Beverly Hills, California, has perfected a new, all-purpose hole cutting tool, for cutting holes in wood, steel, brass, hard rubber, aluminum, fibre, plastics and problem materials which might necessitate the use of a torch. Two sizes are available: One model cuts holes to any diameter from 5/8-inch to 1¼-inch through 1/8-inch thickness. The other model covers all expansions from 1 to 2½ inches through thicknesses up to 3/8-inch. The tools are designed to operate in light drill presses, portable drills, or breast drills and are also available with square shanks for use in hand braces.

The cutter consists of a drill which starts the hole and also serves as a pilot for the tool, a hardened body with a milled slot into which is set a specially-ground high-speed steel tool bit, and a hardened and ground shank. Adjustment is obtained by loosening the hexagon bolt which holds a firm locking clip, and sliding the blade to the correct distance from the pilot.

Thickness capacity of the tool varies with the type of material being worked. Metals up to 3/8-inch thickness are cut quickly and smoothly. Wood, plastics and compressed materials may be cut to much greater thicknesses, in most instances the thickness capacity being unlimited.

Hydraulic Handbook

The Aldrich Pump Company, Allentown, Pennsylvania, has published a 60-page, illustrated booklet on pumps and hydraulic equipment, called "Aldrich Hydraulic Handbook."

It contains complete and hydraulic information and tables, under the following headings—water head equivalents, pump plunger loads, hydraulic formulae, plunger displacement, pressure equivalents, capacity of shafts, electrical data, pump discharge diagrams, accumulator volumes, friction losses in fittings and pipes, capacities of pumps and cylinders, barometric pressures, pipe data, etc. The second section of the handbook is devoted to manufacturing facilities and the third is a condensed catalog of pumps and hydraulic equipment.

Fittings

Tube Turns, Louisville 1, Kentucky, has published a booklet on "Allowable Working Pressures for Tube-Turn Welding Fittings," designed to fit into the pocket of Tube-Turns Catalog 111. Tables are included on power piping, oil piping, district heating piping, gas and air piping, and refrigeration piping.

Lubrication

The Farval Corporation, Cleveland, Ohio, has issued a 16-page booklet portraying the theory and practice of mechanical lubrication. It opens with a study of the machinery lubrication problem and of the economies that are inherent in a system which delivers lubricant to all bearings in exact measured amounts regardless of location. This information is faced by a large close-up of a system at work. There follows an explanation, by means of six cutaway drawings in color, of how the measuring valve operates to deliver a measured amount of lubricant, and why it can do this without recourse to springs, check valves or small ports. The construction and operation of both manual and automatic pumping units, which provide the high pressure source of lubricant supply, are similarly treated. The center spread is devoted to the economics of positive mechanical lubrication; and in the concluding pages a selection of 24 application photographs suggest methods of locating and mounting pumping units and feed lines on as many different kinds of machinery.

Gear Reduction Units

CLEVELAND WORM & GEAR COMPANY

Cleveland Worm & Gear Company, Cleveland, Ohio, has improved its fan-cooled work gear reduction units so that smaller size units may be applied to a given installation. In some instances it is claimed that the new units offer as much as twice the capacity of the standard worm-gear units of equal frame size when operated with 1750 r.p.m. motors.

In the improved units, heat generated during operation passes through the oil bath to the deeply-finned wall of the reservoir. An exhaust fan on the coupling end draws a stream of air at high velocity between the double walls that form the lower half of the unit, scouring the surface and providing an effectual transfer of heat.

Cameron Iron Works Opens Sales Office at Tulsa

Cameron Iron Works, Inc., with Houston headquarters, has established a district sales office at 314 Thompson Bldg., Tulsa with R. L. Farmer in charge.

The Lone Star Cement Corporation of New York, manufacturers of a special line of oil well cements, has opened a district sales office at 12 East 12th street, Tulsa, with J. H. Topper in charge.

☆

CHARLES H. McADOO has returned to Tulsa to become warehouse and office manager for Baker Oil Tools, Inc., after serving in the procurement division of the Army. The company also announced transfer of D. H. Reagan from Tulsa to Great Bend, Kansas, as junior field engineer.

LOUIS W. MASON, former purchasing agent of the Tubular Alloy Steel Corporation, has been named assistant to the general manager of sales for the National Tube Company, with headquarters in Washington, D. C.

Light Weight Chain Blocks

MANNING, MAXWELL & MOORE

Manning, Maxwell & Moore, Muskegon, Michigan, announce a new line of high-speed, spur geared chain hoists in capacities of one-quarter to two tons lifting capacity.

Light weight is a feature of the new line, the quarter and one-half ton hoists weighing 48 pounds, the one-ton, 59 pounds, and the two-ton, 81 pounds.

The hoists have anti-friction bearings on all shafts. Also the automatic load brake and the entire machanism operate in a grease-packed, sealed enclosure, as does the stamped steel hand chain wheel. A chain guide prevents the hand chain from "gagging" or fouling the wheel, resulting in fast and easy operation.

Plastic Tape

IRVINGTON VARNISH & INSULATOR COMPANY

Irvington Varnish & Insulator Company, Irvington 11, New Jersey, has developed a many-purpose plastic tape said to have widely divergent applications. It is used for insulating wires, cables and electrical equipment; for splicing cables; and for protecting wiring, piping and equipment exposed to caustic or corrosive fumes, oil, grease, acids, alkalis or moisture.

The tape is manufactured from vinylite resin. It is heat-sealing, flame resistant, and high in dielectric and mechanical strength.

Pressed Steel Tank Reopens Sales Offices

Pressed Steel Tank Company, Milwaukee, is re-opening its branch offices in Chicago and Los Angeles. The Chicago office will be at 208 S. LaSalle Street, under the direction of Kenneth Cole. The Los Angeles office is at 727 W. 7th Street, with James Barr in charge.

Both Cole and Barr have been identified with the company for many years. Soon after the outbreak of the war, both were called to Milwaukee in order to assist with erection and management of a new plant for war production. Later Cole was given a leave of absence to join the War Production Board in Washington where he served for a year as chief of the steel barrel and gas cylinder section of the containers division.

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WING VALVES

The **ORBIT VENTURI TYPE VALVE** is manufactured with Stellite "J" Metal Seats which will not only withstand the abrasion of sand but is also corrosion resistant to all types of crude oil.

Orbit Venturi Type Valve

This valve can be furnished thru all fabricators of Xmas Trees or thru any of your local supply stores at a price comparable to that of leading plug valves **YET** this valve requires no lubrication to effect a seal.

See Pages 2194 to 2211 In 1944 Composite Catalog

Specify

ORBIT VALVES

OIL WELL IMPROVEMENTS COMPANY

TULSA OKLAHOMA

E. F. GAHAN, Export Rep.

500 Fifth Ave., New York 18, N. Y.

H. B. HANEY has been named assistant vice president of the Tide Water Associated Oil Company and will continue as manager of transportation. Gardiner Blackman was named manager of industril relations for the company's western division, succeeding C. R. Brown, who has assumed additional responsibilities as assistant to the president.

L. A. COURTER, former district manager at Seminole, Oklahoma, for Dowell, Inc., will be in charge of the company's new office at 1350 National Bank Building, Oklahoma City. John Mayfield will succeed Courter in the Seminole office. W. Wray Love has become Dowell's district manager at Salem, Illinois.

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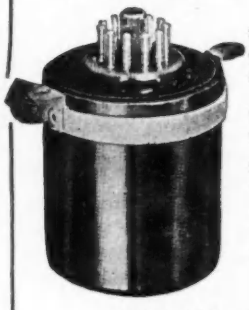

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